U. S. Department
of Transportation

**Federal Aviation
Administration**

Great Lakes Region
Illinois, Indiana, Michigan,
Minnesota, North Dakota
Ohio, South Dakota, and
Wisconsin

2300 E Devon Avenue
Des Plaines, Illinois 60018

September 16, 2004

Ms. Rosemarie Andolino
Executive Director, O'Hare Modernization Program
City of Chicago, Department of Aviation
Post Office Box 66142
Chicago, Illinois 60666

Re: O'Hare International Airport Master Plan

The Federal Aviation Administration (FAA) has completed a comprehensive review of the O'Hare International Airport Master Plan document submitted by the City of Chicago on February 6, 2004. Our review focused on master planning processes and procedures as contained in Advisory Circular 150/5070-6A, Airport Master Plans; FAA comments provided on the City's initial planning documents in 2003; and the scope of work specified by the FAA in AIP grants issued to the City for master planning and related work.

Attached you will find a document containing comments compiled during our review process. These comments will need to be adequately addressed to the satisfaction of the FAA for the FAA to be able to complete its review of the Master Plan.

In addition, a major product of the planning process is the Airport Layout Plan (ALP). As part of the City's master planning work, a draft ALP was submitted to the FAA for review in December 2002, and a revised version of the ALP was submitted to FAA in October 2003. As you are aware, approval of the ALP by the FAA cannot occur until:

a. the technical issues contained in the FAA's O'Hare International Airport Airspace Case No. 2003-AGL-0878-NRA letter (submitted under separate cover to the City dated July 22, 2004) are adequately addressed to the satisfaction of the FAA, and
b. a Final Environmental Impact Statement is completed, and a favorable Record of Decision is issued by the FAA.

We are available to meet with representatives of your office to discuss the items noted in the attached document and develop a plan for the City of Chicago to address each item. If you have any questions or need further clarification, please contact Richard Kula of my office at (847) 294-7507 or contact me at (847) 294-7812.

Sincerely,

Barry D. Cooper
Manager, Chicago Area Modernization Program Office

O'HARE INTERNATIONAL AIRPORT

MASTER PLAN REVIEW

FEDERAL AVIATION ADMINISTRATION

SEPTEMBER 16, 2004

Table of Contents

O'HARE INTERNATIONAL AIRPORT
MASTER PLAN
FAA COMMENTS

GENERAL

1. The review and comments associated with the O'Hare International Airport Master Plan are for planning purposes only. Construction is not permitted until the Federal Aviation Administration (FAA) completes the Final Environmental Impact Statement (EIS) and issues a favorable Record of Decision (ROD).

2. Due to various requirements of planning and EIS processes and the structure of the planning grants, not all information contained in this document are required to be specifically in the Master Plan. However, tasks approved by the FAA listed in the grant agreements are addressed below, whether for Master Planning or EIS work.

CHICAGO O'HARE INTERNATIONAL AIRPORT - PLANNING GRANT PROJECT NUMBER 3-17-0022-043 - MARCH 7, 2002 (See Appendix A)

I. Facility Inventory

- The scope of work states that for terminal facilities, "The terminal facilities will result in the development of current information relative to each carrier's leasehold and occupied space/gates within the terminal building..." information will be provided. Table II-4 depicts what terminals/concourses each airline operate from, but it appears that the does not provide specific leasehold and gate utilization information for each carrier. Please provide this information.

- The scope of work states that for cargo facilities, "Property leasehold information, including term and boundaries, will be collected for each of these facilities." However, term and boundary information does not appear to be presented. Please provide this information.

II. Planning Activity Level Definitions and Schedules

- In the Master Plan, the Sponsor has successfully completed the items identified in the workscope for this grant. For the Environmental Impact Statement the FAA's Third Party Contractor (TPC) updated the flight schedules to reflect current information. This effort has been successfully completed.

III. Airfield Refinements

- The Sponsor and the FAA continue to refine the proposed airfield. In addition to items contained in the Master Plan, work on the Airfield/Airspace simulation modeling, and the Airport Layout Plan reviews are addressing the defined task.

IV. Other Facility Refinements

- The Sponsor has successfully completed the items identified in the workscope for this grant.

V. Roadway Concepts

- This task is an on-going effort and is scheduled to be completed as part of the Environmental Impact Statement.

VI. Storm Water/Utilities Planning

- Although not contained in the Master Plan documents, the Sponsor has provided a draft report by BPC Airport Partners entitled, "Assessment of Subsurface and Off-Airport Stormwater Management Alternatives". The Sponsor has also provided information subsequent to additional FAA requests. The FAA continues to review this information. Additional information will be provided to the Sponsor as the FAA completes the analysis of the data.

VII. Airfield/Airspace Simulation Model Development and Experiments

- The Master Plan documents contain the results of airfield and airspace simulation analyses based on the FAA's 2001 Terminal Area Forecast (TAF). This was the current forecast available at the time of the Master Plan effort. However, for the EIS, the FAA's 2002 TAF is being utilized in all modeling (delay and travel time, noise, air, and surface transportation) efforts. This task is ongoing.

VIII. Roadway Simulation Model Development and Experiments

- Although not contained in the Master Plan documents, the Sponsor has provided and needs to continue providing the FAA information related to the roadway simulation modeling effort. This task is ongoing.

IX. Composite Concepts

- The Sponsor has successfully completed a majority of the portions of this task in the Master Plan document.

- The remaining portions of the task not included in the Master Plan documents are on-going. Specifically, the Sponsor has provided a draft report by BPC Airport Partners entitled, "Assessment of Subsurface and Off-Airport Stormwater Management Alternatives". The Sponsor has also provided information subsequent to additional FAA requests. The FAA continues to review this information. Additional information will be provided to the City as the FAA completes the analysis of the data contained in this report.

X. Evaluations of Composite Alternatives

- Although not contained in the Master Plan documents, the FAA and the Sponsor continue to work together on this task.

XI. Preferred Composite Concept Selection and Refinements

- This task is an on-going effort and is scheduled to be completed as part of the Environmental Impact Statement.

XII. Airport Layout Plan (ALP) Development

- The Sponsor has submitted two draft ALP documents (December 2002 and October 2003). The FAA has provided comments regarding these submittals. Please see ALP Comments document dated July 22, 2004. The FAA continues to provide technical assistance to the Sponsor. The ALP cannot be approved until all technical issues have been addressed, a Final Environmental Impact Statement is completed, and a favorable Record of Decision has been issued by the FAA.

XIII. Public Involvement and Agency Coordination

- Although not contained in the Master Plan documents, the Sponsor has provided and needs to continue providing the FAA information related to their public outreach materials including copies of all boards, handouts, and comments received at each event.

CHICAGO O'HARE INTERNATIONAL AIRPORT - PLANNING AND EIS GRANT - PROJECT NUMBER 3-17-0022-56 - AUGUST 15, 2003 (See Appendix B)

This grant contains tasks identified for both planning and the Environmental Impact Statement (EIS). The items specified in this section only relate to the Sponsor's tasks under either the planning or EIS work.

III – TECHNICAL ENVIRONMENTAL CONSULTING

Task 1 – Technical Liaison Team

- This task is an on-going effort and is scheduled to be completed as part of the Environmental Impact Statement.

Task 2 – Air Quality Coordination

- This task is an on-going effort and is scheduled to be completed as part of the Environmental Impact Statement.

Task 2.1 – Develop Coordination Plan

- The Sponsor has successfully completed the items identified in the workscope for this grant.

Task 2.2 – Agency Coordination on Air Quality Issues

- This task is an on-going effort and is scheduled to be completed as part of the Environmental Impact Statement.

Task 2.3 – Air Quality Protocol Assistance

- This task is an on-going effort and is scheduled to be completed as part of the Environmental Impact Statement.

Task 2.4 – Update Baseline Condition

- The Sponsor has successfully completed the items identified in the workscope for this grant.

Task 2.5 – Coordinate Air Quality Input Data and Analysis

- This task is an on-going effort and is scheduled to be completed as part of the Environmental Impact Statement.

Task 2.6 – Alternatives Air Quality Evaluation

- This task is an on-going effort and is scheduled to be completed as part of the Environmental Impact Statement.

Task 3 – OMP Air Quality Best Management Practices

- This task is an on-going effort and is scheduled to be completed as part of the Environmental Impact Statement.

Task 3.1 – Assemble Strategic Air Quality Best Management Practices Document

- This task is an on-going effort and is scheduled to be completed as part of the Environmental Impact Statement.

Task 3.2 – Revise the 1998 Air Quality Improvement Program (AQIP) Report for Existing Conditions

- The Sponsor has successfully completed the items identified in the workscope for this grant.

Task 3.3- Clean Fuel Options for Airport Vehicles

- The Sponsor has successfully completed the items identified in the workscope for this grant.

Task 3.4 – Clean Construction Options

- This task is an on-going effort as part of the Environmental Impact Statement.

Task 4 – OMP Affected Environment Technical Working Report

- The Sponsor has successfully completed the items identified in the workscope for this grant.

Task 4.1 – Study Area Definition

- The Sponsor has successfully completed the items identified in the workscope for this grant.

Task 4.2 – Land Use Mapping

- The Sponsor has successfully completed the items identified in the workscope for this grant.

Task 4.3 – Natural Environment Description

- The Sponsor has successfully completed the items identified in the workscope for this grant.

Task 4.4 – Historic Resources Description

- The Sponsor has successfully completed the items identified in the workscope for this grant.

Task 4.5 – Socioeconomic Profile

- The Sponsor has successfully completed the items identified in the workscope for this grant.

Task 4.6 – Prepare Technical Working Report

- Although not contained in the Master Plan documents, the Sponsor has provided two draft technical reports satisfying the scope of this task.

Task 5 – Noise Analysis Support

- This task is an on-going effort and is scheduled to be completed as part of the Environmental Impact Statement.

Task 5.1 – Existing Conditions Evaluation

- The Sponsor has successfully completed the items identified in the workscope for this grant.

Task 5.2 – Noise Modeling Protocol Development

- The Sponsor has successfully completed the items identified in the workscope for this grant.

Task 5.3 – Coordination of Data Transfer to Noise Model

- The Sponsor has successfully completed the items identified in the workscope for this grant.

Task 5.4 – Individual Data Collection

- The Sponsor has successfully completed the items identified in the workscope for this grant.

Task 5.5 – Assistance to FAA/TPC

- This task is an on-going effort as part of the Environmental Impact Statement.

Task 5.6 – Assistance to Alternative Development

- This task is an on-going effort as part of the Environmental Impact Statement.

Task 6 – OMP Noise Modeling Input Development

- This task is an on-going effort and is scheduled to be completed as part of the Environmental Impact Statement.

Task 6.1 – Existing Conditions Evaluation

- The Sponsor has successfully completed the items identified in the workscope for this grant.

Task 6.2 – Future No Action Data Development

- This task is an on-going effort and is scheduled to be completed as part of the Environmental Impact Statement.

Task 6.3 – Future Proposed Action Noise Input Review and Concurrence

- This task is an on-going effort and is scheduled to be completed as part of the Environmental Impact Statement.

Task 7 - Other Support (As Needed)

- This task is an on-going effort as part of the Environmental Impact Statement.

IV – AIRFIELD/AIRSPACE SIMULATION

Task 1 – Experiment Design

- The Sponsor has successfully completed the items identified in the workscope for this grant.

Task 2 – Baseline and Future Schedules

- The Sponsor has successfully completed the items identified in the workscope for this grant.

Task 3 – Baseline and Future Simulation

- This task is an on-going effort as part of the Environmental Impact Statement.

Task 4 – Evaluation of Simulation Results

- This task is an on-going effort in support of the Environmental Impact Statement.

Task 5 – Documentation

- This task is an on-going effort as part of the Environmental Impact Statement.

V – SURFACE TRANSPORTATION PLANNING

Task 1 – Project Definition

- The Sponsor has successfully completed the items identified in the workscope for this grant.

Task 2 – Surface Transportation Analysis

- The Sponsor has successfully completed the items identified in the workscope for this grant.

Task 2.1 – Develop Surface Transportation Components for the Alternatives

- The Sponsor has successfully completed the items identified in the workscope for this grant.

Task 2.2 – Refine the Methodology for the Surface Transportation Analysis

- The Sponsor has nearly completed the items identified in the workscope for this grant. FAA will continue to monitor this task to ensure completion.

Task 2.3 – Modify the Surface Transportation Model Based on Task 2.2

- The Sponsor has nearly completed the items identified in the workscope for this grant. FAA will continue to monitor this task to ensure completion.

Task 2.4 – Apply Surface Transportation Model to the Future Activity Scenarios

- This task is an on-going effort as part of the Environmental Impact Statement.

Task 2.5 – Agency Coordination

- This task is an on-going effort as part of the Environmental Impact Statement.

PLANNING DOCUMENT COMMENTS

The FAA provided comments on May 21 and October 6, 2003 (See Appendices C and D, respectively) to the Sponsor on the following draft reports: *Project Definition Report, Concept/Development Refinement Report, Unconstrained Demand Analysis Report, Airport Layout Plan Submittal, and Airside Simulation Report.* Additional reports (including the O'Hare International Airport Master Plan) and studies were underway or

just beginning at the time of the submittal of that document which resulted in some of these issues being addressed at other stages of the planning process. The following comments relate to issues on-going or still open from these earlier planning documents.

General Master Plan Comments

1. ***Provide an OMP financial plan, which includes a discussion of what role/priority OMP plays in the Chicago O'Hare Capital Improvement Plan, funding sources (AIP, PFC, entitlements, discretionary, bonds, others), and amounts.***

    - The Sponsor provided a financial plan in the O'Hare Master Planning document at the necessary level of detail for master planning. Additional review of the financial plan will occur upon receipt of the Sponsor's Letter of Intent Application containing the benefit cost analysis (BCA).

2. ***Develop a cost benefit analysis for OMP.***

    - This task is an on-going effort.

3. ***Provide documentation on the economic impact of OMP on the City of Chicago and the region.***

    - This task is an on-going effort and is scheduled to be completed as part of the Environmental Impact Statement.

4. ***Discuss further how the goals and objectives of the OMP and the WGP work together to provide an overall more efficient and beneficial airport.***

    - This task is an on-going effort and is scheduled to be completed as part of the Environmental Impact Statement.

5. ***Provide documentation describing the existing conditions and issues. This included an airport inventory and an assessment of pertinent airport-related issues and operational constraints.***

    - This task is an on-going effort and is scheduled to be completed as part of the Environmental Impact Statement.

6. ***Provide a discussion of the City's public outreach program.***

    - Although not contained in the Master Plan documents, the Sponsor has provided and needs to continue providing the FAA information related to their public outreach materials including copies of all boards, handouts, and comments received at each event.

7. ***Provide a discussion of compatible land-use such as zoning, RPZ acquisition, and public interest.***

   - The Sponsor has nearly completed the items identified in the workscope for this grant. FAA will continue to monitor this task to ensure completion.

8. ***Provide discussion of airport capacity and delay based on 2002 Terminal Area Forecasts. This discussion should include information on constrained and unconstrained airfield capacity, delay numbers that compare a build and no build scenario, and other capacity and delay issues, such as runway versus airfield delay numbers as appropriate.***

   - Airport travel time and delay analyses using the 2002 Terminal Area Forecast is currently underway. Unconstrained and constrained forecasts were developed by the FAA's TPC and provided to the City for use in the modeling.

Specific Comments Needing Further Clarification

- The Sponsor shall work with the FAA to adequately address, to the satisfaction of the FAA, comments relating to the pre-Master Planning documents provided by the FAA on May 21, 2003 **(See Appendix C)** and October 6, 2003 **(See Appendix D)**.

APPENDIX A

U. S. Department
of Transportation

**Federal Aviation
Administration**

Great Lakes Region
Illinois, Indiana, Michigan,
Minnesota, North Dakota
Ohio, South Dakota
Wisconsin

2300 E Devon Avenue
Des Plaines, Illinois 60018

March 7, 2002

Mr. Thomas R. Walker, Commissioner
Department of Aviation
Chicago O'Hare International Airport
P.O. Box 66142, Terminal 2 City Office
Chicago, IL 60666

Dear Mr. Walker:

Chicago O'Hare International Airport
Chicago, Illinois
AIP Project No. 3-17-0022-043
Grant Offer

Enclosed herewith are the original and three copies of the Grant Offer issued by the authority of the Administrator of the Federal Aviation Administration on behalf of the United States to pay the Government's share of the allowable costs up to a maximum of $4,500,000.00 for a project at Chicago O'Hare International Airport, under AIP Project No. 3-17-0022-043.

If the terms of the Grant Offer are satisfactory, it must be accepted by the sponsor on or before April 30, 2002, and such acceptance should be accomplished by execution of the paragraph entitled "Acceptance" by the officers of the sponsor who have been duly authorized to take such action. The respective certificate of the sponsors' attorneys should be executed following the execution of the above mentioned documents. Please return the original and two copies to this office.

The Grant Offer and the executed Acceptance thereof will together constitute the Grant Agreement under which the sponsor is obligated to accomplish the development described therein. The obligations created under the Grant Agreement shall not be modified in any method other than through written approval of the Federal Aviation Administration. At no time should the City of Chicago or the Illinois Department of Transportation, Division of Aeronautics, or their representatives, anticipate any change of any nature under the Grant Agreement, and any deviation from strict compliance therewith for any reason or on any basis without such written approval shall be made at the sponsor's own risk.

Sincerely,

Philip M. Smithmeyer
Manager, Chicago Airports District Office

Enclosures

cc: Illinois Department of Transportation

GRANT AGREEMENT

U. S. Department of Transportation
Federal Aviation Administration

Date of Offer: March 7, 2002
Project Number: 3-17-0022-043

Recipient: The City of Chicago (Herein called the "Sponsor")
Airport: Chicago O'Hare International Airport

OFFER

THE FEDERAL AVIATION ADMINISTRATION, FOR AND ON BEHALF OF THE UNITED STATES, HEREBY OFFERS AND AGREES to pay, as the United Stetas' share, seventy-five percent (75%) of the allowable costs incurred in accomplishing the project consisting of the following:

"Airport Master Plan Study, Phase I, for Chicago O'Hare International Airport" all as more particularly described in the Project Application dated December 17, 2001.

The maximum obligation of the United States payable under this Offer shall be $4,500,000.00 for airport planning.

This offer is made in accordance with and for the purpose of carrying out the provisions of Title 49, United States Code, herein called Title 49 U.S.C. Acceptance and execution of this offer shall comprise a Grant Agreement, as provided by Title 49 U.S.C., constituting the contractual obligations and rights of the United States and the Sponsor.

UNITED STATES OF AMERICA
FEDERAL AVIATION ADMINISTRATION

Manager, Chicago Airports District Office

SPECIAL CONDITIONS

1. The sponsor will not amend, modify, or terminate the agency relationship between the sponsor, as principal, and the State of Illinois, Department of Transportation, Division of Aeronautics as agent, created by the Agency Agreement to be entered into, without prior written approval of the FAA.

ACCEPTANCE

The Sponsor agrees to accomplish the project in compliance with the terms and conditions contained herein, in the Project Application, and in the January 2001 "Terms and Conditions of Accepting Airport Improvement Program Grants" signed on June 5, 2001.

Executed this 8th day of March, 2002

Signature of Sponsor's Designated Official Representative

(Seal)

Commissioner of Aviation
Title

CERTIFICATE OF SPONSOR'S ATTORNEY

I, Monica M. Monroe, Asst. Corporation Counsel, acting as Attorney for the Sponsor do hereby certify: That in my opinion the Sponsor is empowered to enter into the foregoing Grant Agreement under the laws of the State of Illinois. Further, I heve examined the foregoing Grant Agreement, and the actions taken by said Sponsor relating thereto, and find that the acceptance thereof by said Sponsor and Sponsor's official representative has been duly authorized and that the execution thereof is in all respects due and proper and in accordance with the laws of the said State and Title 49 U.S.C. In addition, for grants involving projects to be carried out on property not owned by the Sponsor, there are no legal impediments that will prevent full performance by the Sponsor. Further, it is my opinion that the said Grant Agreement constitutes a legal and binding obligation of the Sponsor in accordance with the terms thereof.

Executed this 14 day of March, 2002.

Signature of Sponsor's Attorney

ACCEPTANCE OF IDOT

The State of Illinois, Department of Transportation, Division of Aeronautics, does hereby accept said Offer and by such acceptance agrees to all of the terms and conditions thereof.

Executed this 21 day of May, 2002

IDOT'S Official Representative/Title

CERTIFICATE OF IDOT'S ATTORNEY

I, George W. Tinkham, acting as Attorney for the State of Illinois, Department of Transportation, Division of Aeronautics hereby certify: That I have examined the foregoing Grant Agreement and proceedings taken by the State of Illinois, Department of Transportation, Division of Aeronautics, relating thereto and find thet the acceptance thereof by the State of Illinois, Department of Trensportation, Division of Aeroneutics, has been duly euthorized end thet the execution thereof is in all respects due and proper and in accordance with the laws of the said State of Illinois and further thet, in my opinion, said Grant Agreement constitutes a legel and binding obligetion of the State of Illinois, Department of Transportation, Division of Aeronautics, in accordance with the terms thereof.

Executed this 21 dey of May, 2002

Signature of IDOT'S Attorney

OMB Approval No. 0348-0043

APPLICATION FOR FEDERAL ASSISTANCE

2. DATE SUBMITTED	Applicant Identifier
2. DATE RECEIVED BY STATE: 12/31/01	State Application Identifier
4. DATE RECEIVED BY FEDERAL AGENCY	Federal Identifier

TYPE OF SUBMISSION:
- [ ] Application / [ ] Construction — [ ] Non-Construction
- Preapplication: [X] Construction — [ ] Non-Construction

5. APPLICANT INFORMATION

Legal Name: City of Chicago

Organizational Unit: Department of Aviation

Address (give city, county, state, and zip code):
P.O. Box 66142
Chicago, IL 60666

Name and telephone number of the person to be contacted on matters involving this application (give area code):
Daryl McNabb
(773) 686-3537

6. EMPLOYER IDENTIFICATION NUMBER (EIN): 36-6005820

7. TYPE OF APPLICANT: (enter appropriate letter in box) C
- A. State
- B. County
- C. Municipal
- D. Township
- E. Interstate
- F. Intermunicipal
- G. Special District
- H. Independent School Dist.
- I. State Controlled Institution of Higher Learning
- J. Private University
- K. Indian Tribe
- L. Individual
- M. Profit Organization
- N. Other (Specify): _____

8. TYPE OF APPLICATION:
- [X] New
- [ ] Continuation
- [ ] Revision

If Revision, enter appropriate letter(s) in box(es): [ ] [ ]
- A. Increase Award
- B. Decrease Award
- C. Increase Duration
- D. Decrease Duration
- Other (specify):

9. NAME OF FEDERAL AGENCY: Department of Transportation
Federal Aviation Administration

10. CATALOG OF FEDERAL DOMESTIC ASSISTANCE NUMBER: 20.106

TITLE: Airport Improvement Program

11. DESCRIPTIVE TITLE OF APPLICANT'S PROJECT:
Master Plan Project

12. AREAS AFFECTED BY PROJECT (cities, counties, states, etc.):
Chicago Metropolitan Area

13. PROPOSED PROJECT:

Start Date	Ending Date
01/02	01/03

14. CONGRESSIONAL DISTRICTS OF:

a. Applicant	b. Project
City-wide	City-wide

15. ESTIMATED FUNDING:

a. Federal	$ 4,500,000 .00
b. Applicant	$ 1,500,000 .00
c. State	$ .00
d. Local	$ .00
e. Other	$ .00
f. Program Income	$ .00
g. TOTAL	$ 6,000,000 .00

16. IS APPLICATION SUBJECT TO REVIEW BY STATE EXECUTIVE ORDER 12372 PROCESS?
- a. YES. THIS PREAPPLICATION/APPLICATION WAS MADE AVAILABLE TO THE STATE EXECUTIVE ORDER 12372 PROCESS FOR REVIEW ON: DATE _____
- b. NO. [X] PROGRAM IS NOT COVERED BY E.O. 12372
- [ ] OR PROGRAM HAS NOT BEEN SELECTED BY STATE FOR REVIEW

17. IS THE APPLICANT DELINQUENT ON ANY FEDERAL DEBT?
- [ ] Yes If "Yes," attach an explanation.
- [X] No

18. TO THE BEST OF MY KNOWLEDGE AND BELIEF, ALL DATA IN THIS APPLICATION/PREAPPLICATION ARE TRUE AND CORRECT, THE DOCUMENT HAS BEEN DULY AUTHORIZED BY THE GOVERNING BODY OF THE APPLICANT AND THE APPLICANT WILL COMPLY WITH THE ATTACHED ASSURANCES IF THE ASSISTANCE IS AWARDED

a. Typed Name of Authorized Representative	b. Title	c. Telephone number
Thomas R. Walker	Commissioner of Aviation	(773) 686-8060

d. Signature of Authorized Representative: Thomas R. Walker

e. Date Signed: 12/17/01

Previous Editions Not Usable

Standard Form 424 (REV 4-88)
Prescribed by OMB Circular A-102

Authorized for Local Reproduction

*Section 18, Items a-e
CERTIFYING REPRESENTATIVE:

The state supports this application from City of Chicago for O'Hare International Airport for federal funding. The project request for Master Plan Project follows the listing in the Department's Proposed FY 2002-2006 AIP.

Hugh Van Voorst, Director
Division of Aeronautics
Illinois Dept. of Transportation

JAN 17 2002
Date Signed

PHASE ONE PLANNING GRANT

The attached scope details the work proposed to occur in 2002. Due to the aggressive nature of this project, the work covered under this scope will begin prior to the availability of planning grant funds. Therefore, it is proposed that the Phase One Planning Grant cover the planning work done under this scope, beginning with the development of the composite concepts. The chart below details the estimated costs for the elements to be covered by the Phase One Planning Grant scope. It is expected that additional planning will occur after 2002. Such things as facility programming will need to be addressed after submittal of the Airport Layout Plan. As well, public and agency coordination will continue after this year. Therefore, the Airport Sponsor may apply for additional phases of planning grants once future needs are better defined.

Phase One Planning Grant Estimated Costs:

Element	**Estimated Cost**
Roadway Simulations	$500,000
Composite Concepts	$1,500,000
Evaluation	$2,500,000
Preferred Concept	$1,000,000
Airport Layout Plan Development	$500,000
Public & Agency Coordination	$500,000
Estimated Phase One Total	$6,500,000

SCOPE OF WORK

This scope defines the planning process elements to be conducted in support of the refinement of the O'Hare Modernization Plan (OMP). This work will be conducted during Year 2002 with the goal of submitting an ALP to the FAA for review by the end of the year. Following the ALP submittal, facility programming will commence. This programming process will focus on developing the details for each of the necessary facilities as identified by the previous planning process. It should be noted that all of the planning processes associated with the OMP should be viewed as concurrent. Due to the aggressive nature of the Plan, generally accepted streamlining techniques will be utilized to add this level of concurrence. The planning process will include all of the traditional elements considered to be part of a master plan and/or ALP development. However, the goal is to evaluate elements together in order to provide a detailed analysis of the Plan while meeting the aggressive schedule. The attached exhibit depicts the general timeline for each of the components and the relationships between each of the elements.

FACILITY INVENTORY

The inventory process will entail the collection of adequate information to effectively assess the capabilities of the existing facilities, identify relationships between activity and physical space requirements both within the terminal and for other facilities, and identify spatial locations of various physical facilities and leaseholds on Airport property that impact future facility layout. The following areas will be covered:

Terminal Facilities - The terminal facilities inventory will result in the development of current information relative to each carrier's leasehold and occupied space/gates within the terminal buildings, concession areas, public areas, administrative areas, and other necessary terminal functional areas. It is anticipated that significant information is available from the Airport's Terminal Area Assignment Drawings and other existing sources.

Airline Maintenance Facilities – Information relative to these facilities will be collected from existing sources and summarized. Property leasehold information will be collected for each of these facilities.

Cargo Facilities – Information relative to these facilities will be collected from existing sources and summarized. Property leasehold information, including term and boundaries, will be collected for each of these facilities.

Airfield Facilities – Existing NAVAID information, markings, and instrumentation as well as information on physical characteristics of the pavements, will be collected.

Utilities – Utility information relative to the various systems on the Airport will be identified and collected.

Auto Parking Areas – Information on existing parking facilities will be collected. Included are physical and operational characteristics necessary to ascertain relationships between parking demand and capacity as well as to identify limitations and impacts of new development.

Rental Car Information – Information on rental car facilities and their use will be collected in adequate detail to provide information to assess future facility needs and potential impacts to development.

Other Facilities- Information relative to other facilities on Airport property or facilities potentially impacted by the development proposal will be collected. Facilities included in this effort will be Airport maintenance facilities, catering facilities, fuel storage facilities, etc.

PLANNING ACTIVITY LEVEL DEFINITION AND SCHEDULES

The definition of Planning Activity Levels will occur through the use of the FAA Terminal Area Forecast and existing patterns of activity at the Airport. It is anticipated that planning activity levels representative of 2015 and 2030 based on the most recent FAA TAF will be identified as the basis for this effort. Utilizing historical patterns of activity at the Airport, the PALs will be converted to peaking activity levels for analysis of facility requirements. The future peaking characteristics will be based on historical relationships as well as historical schedules of airline activity.

As part of this exercise, future schedules of airline activity will be developed for use in the airfield simulation analyses and in terminal facility planning. These future schedules will be provide information on carrier and equipment as well as information on the peaking patterns at the Airport for both passengers and operations. The development of these schedules will require significant assumptions on future growth by individual carriers and carrier groups (e.g., domestic versus international), fleet mix, and future peaking patterns and schedules. The goal of this effort is not necessarily to provide a perfect prediction of the future (albeit the schedules will be developed with consideration of current market characteristics and realistic assumptions on the future of O'Hare's traffic), but to provide a reasonable estimation of future traffic patterns and make-up for the purposes of assessing and defining the facility concepts.

AIRFIELD REFINEMENTS

The airfield refinements task will utilize the information and concepts developed in concert with FAA and airline parties and refine these concepts to fully consider the operational characteristics of each. Included in this exercise will be the assessment of ground operations to define additional pavements necessary to efficiently route traffic around the Airport to the various facilities, the identification of necessary NAVAID facilities and their impact on ground operations, the investigation of the various safety areas associated with the concepts and the necessary off-Airport modifications necessary for their protection (roadway, railroad re-routings), and runway length analysis. It is anticipated that significant effort will be necessary to confirm routings to/from the runways, and that routings independent of runway operation will be provided to the extent possible. This effort will include review of the various TERPs and critical surfaces associated with the runways. This review will also provide necessary information for the identification of areas available for facility development (terminal, hangar, etc.) necessary to support the Plan and allow its development.

OTHER FACILITY REFINEMENTS

In conjunction with the refinement of the airfield concepts, refinement of the generalized concepts for facilities including cargo, airline maintenance, terminal, parking, etc. will occur. Utilizing the PALs and schedules developed in prior tasks, an assessment of the terminal facility and gate needs to meet the PALs will be assessed. Facility requirements for cargo, maintenance and other facilities will be defined through analytical methods to define the space needs for these facilities in the planning years. Utilizing these requirements, and considering the facility relocations necessitated by the various alternatives, concepts to site these other facilities will be developed. It is anticipated that these concepts will be general in nature, defined only to the extent necessary to provide an indication of the airfield network needed to serve them and to confirm adequate land availability.

ROADWAY CONCEPTS

Roadway concepts will be developed to support the various airfield and facility alternatives. Based on information gathered in the roadway model database development and prior information on the existing roadway network and traffic characteristics, concepts for the development of a roadway system that will effectively connect the Airport development to the surrounding transportation network will be defined. These concepts will ultimately provide the basis for the roadway simulation analyses in subsequent tasks.

STORM WATER/UTILITIES PLANNING

Preliminary planning and analysis necessary to define potential alternatives to address storm water control and utility issues resulting from the OMP will be investigated. This analysis will initially utilize available information on existing storm water and utility infrastructure and will provide an indication of the potential options available to address these areas in response to the OMP.

AIRFIELD/AIRSPACE SIMULATION MODEL DEVELOPMENT AND EXPERIMENTS

Utilizing TAAM, airfield/airspace simulation models of the existing and future alternative airfield systems will be developed to assess the operational characteristics of the alternatives. Alternatives for future airfield development will primarily be variations of the OMP. Alternatives will be developed based on input collected from the airlines and FAA considering operational issues associated with the base concept. The simulation analysis will assess the operational capabilities of the various options under two PALs (1.1 million annual operations and 1.3 million annual operations) for the anticipated primary operating configurations for each alternative. Statistics generated will include average delay and throughput, number runway crossings, and other relevant measures of operating characteristics.

ROADWAY SIMULATION MODEL DEVELOPMENT AND EXPERIMENTS

A simulation model of the roadway system will be developed to assess the regional implications of the proposed development and alternative concepts to serve future ground transportation needs in the area. Existing operational characteristics for the current roadway system will be collected from existing sources and field work to provide the

basis of development of a model for the existing system's operation. Coordination with appropriate transportation facility operators/planners (including ISTHA, IDOT, and CATS) will occur to ensure that current facility plans by these entities are considered in the analysis. The roadway concepts developed in prior tasks will be modeled to assess their abilities to accommodate the demand levels anticipated in the future planning years.

COMPOSITE CONCEPTS

Following the refinement of the airfield layout concepts, composite concepts alternatives will be developed based on the facility requirements of each of the associated elements. In general, the composite concept alternatives will facilitate the evaluation of the relationship between each of the elements. It will allow for the assessment of the feasibility of composites associated with each of the airfield alternatives. Such things as roadways, drainage plans, terminal areas, and areas for support facilities will be added to each of the airfield alternatives to produce the composite alternatives. Preliminary engineering will provide details on runway end elevations and other components associated with each of the composites. This will not include details of the specific terminal or support facilities; only general areas and necessary magnitudes for such will be determined.

EVALUATION OF COMPOSITE ALTERNATIVES

An assessment of each composite concept alternative will be performed to determine the benefits associated with each. This evaluation will focus on four core areas. A preliminary phasing plan will be developed for each. This preliminary phasing plan will include the feasibility of the airspace to support the phasing and construction phasing requirements to assess the feasibility of constructing each of the components. Preliminary operational characteristics of each of the composite alternatives will be determined. These operational characteristics will be used as the basis for simulation analysis to support the operational evaluation. Preliminary cost estimates will be developed for each of the composite alternatives. Environmental screening of each of the composite alternatives will be performed to identify the associated environmental issues.

PREFERRED COMPOSITE CONCEPT SELECTION AND REFINEMENT

Once the evaluation of each of the composite concept alternatives has been completed, a preferred alternative will be selected. This selection will be based on each of the core areas as identified by the evaluation. Consultation with appropriate agencies, user groups, and the airport sponsor will result in a preferred selection that best meets the desired criteria. Following the selection of a preferred composite alternative, refinement of the composite will proceed. This refinement process will involve all concerned parties in order to develop a concept that best meets all considerations. Part of this process will include the development of a plan of finance to facilitate the implementation of the preferred concept.

AIRPORT LAYOUT PLAN (ALP) DEVELOPMENT

Based on the preferred concept, an ALP will be developed according to FAA standards. This ALP will include all of the drawings detailed by Advisory Circular 5300-13. This ALP will provide necessary detail on airfield components, while providing general

locations and magnitude details of terminal and support facilities. A narrative document will be developed to explain the components of the ALP drawing set.

PUBLIC INVOLVEMENT AND AGENCY COORDINATION

This planning process will include a public involvement element in order to incorporate public input into the planning process and well as provide information on the process details to the public. Numerous communication tools will be utilized to solicit and distribute information. In addition to the general public, agency coordination will be conducted throughout the planning process. This will include the involvement of all appropriate federal, state, and local agencies. Input from each of the agencies will be solicited to provide guidance throughout the process. As well, information on the process will be distributed regularly to each of the appropriate agencies.

APPENDIX B

U. S. Department
of Transportation

**Federal Aviation
Administration**

Great Lakes Region
Illinois, Indiana, Michigan,
Minnesota, North Dakota
Ohio, South Dakota
Wisconsin

2300 E Devon Avenue
Des Plaines, Illinois 60018

AUG 15 2003

Mr. Thomas R. Walker, Commissioner
Department of Aviation
Chicago O'Hare International Airport
P.O. Box 66142, Terminal 2 City Office
Chicago, IL 60666

Dear Mr. Walker:

Chicago O'Hare International Airport
Chicago, Illinois
AIP Project No. 3-17-0022-56
Grant Offer

Enclosed herewith are the original and three copies of the Grant Offer issued by the authority of the Administrator of the Federal Aviation Administration on behalf of the United States to pay the Government's share of the allowable costs up to a maximum of $10,296,294.00 for a project at Chicago O'Hare International Airport, under AIP Project No. 3-17-0022-56.

If the terms of the Grant Offer are satisfactory, it must be accepted by the sponsor on or before August 29, 2003, and such acceptance should be accomplished by execution of the paragraph entitled "Acceptance" by the officers of the sponsor who have been duly authorized to take such action. The respective certificate of the sponsors' attorneys should be executed following the execution of the above-mentioned documents. Please return the original and two copies to this office.

The Grant Offer and the executed Acceptance thereof will together constitute the Grant Agreement under which the sponsor is obligated to accomplish the development described therein. The obligations created under the Grant Agreement shall not be modified in any method other than through written approval of the Federal Aviation Administration. At no time should the City of Chicago or their representatives, anticipate any change of any nature under the Grant Agreement, and any deviation from strict compliance therewith for any reason or on any basis without such written approval shall be made at the sponsor's own risk.

Sincerely,

Philip M. Smithmeyer
Manager, Chicago Airports District Office

Enclosures

GRANT AGREEMENT

U. S. Department of Transportation
Federal Aviation Administration

Date of Offer: AUG 15 2003
Project Number: 3-17-0022-56

Recipient: The City of Chicago (Herein called the "Sponsor")
Airport: Chicago O'Hare International Airport

OFFER

THE FEDERAL AVIATION ADMINISTRATION, FOR AND ON BEHALF OF THE UNITED STATES, HEREBY OFFERS AND AGREES to pay, as the United States' share, seventy-five percent (75%) of the allowable costs incurred in accomplishing the project consisting of the following:

> **"Airport Master Plan Study, Phase II, in support of the on-going planning and Environmental Impact Statement processes for the O'Hare Modernization Program as outlined in the attached Statement of Work dated August 12, 2003,"** all as more particularly described in the Project Application dated September 6, 2002.

The maximum obligation of the United States payable under this Offer shall be $10,296,294.00 for airport planning.

This offer is made in accordance with and for the purpose of carrying out the provisions of Title 49, United States Code, herein called Title 49 U.S.C. Acceptance and execution of this offer shall comprise a Grant Agreement, as provided by Title 49 U.S.C., constituting the contractual obligations and rights of the United States and the Sponsor.

UNITED STATES OF AMERICA
FEDERAL AVIATION ADMINISTRATION

Manager, Chicago Airports District Office

ACCEPTANCE

The Sponsor agrees to accomplish the project in compliance with the terms and conditions contained herein, in the Project Application, and in the January 2001 "Terms and Conditions of Accepting Airport Improvement Program Grants" signed on June 5, 2001.

Executed this 18th day of August, 2003

Signature of Sponsor's Designated Official Representative

(Seal)

Commissioner of Aviation
Title

CERTIFICATE OF SPONSOR'S ATTORNEY

I, Monica M. Monroe, acting as Attorney for the Sponsor do hereby certify: That in my opinion the Sponsor is empowered to enter into the foregoing Grant Agreement under the laws of the State of Illinois. Further, I have examined the foregoing Grant Agreement, and the actions taken by said Sponsor relating thereto, and find that the acceptance thereof by said Sponsor and Sponsor's official representative has been duly authorized and that the execution thereof is in all respects due and proper and in accordance with the laws of the said State and Title 49 U.S.C. In addition, for grants involving projects to be carried out on property not owned by the Sponsor, there are no legal impediments that will prevent full performance by the Sponsor. Further, it is my opinion that the said Grant Agreement constitutes a legal and binding obligation of the Sponsor in accordance with the terms thereof.

Signature of Sponsor's Attorney

Executed this 25th day of Aug., 2003

OMB Approval No. 0348-0043

APPLICATION FOR FEDERAL ASSISTANCE

2. DATE SUBMITTED	Applicant Identifier
3. DATE RECEIVED BY STATE	State Application Identifier
4. DATE RECEIVED BY FEDERAL AGENCY	Federal Identifier

1. TYPE OF SUBMISSION:
- ication / Construction ☐ Non-Construction
- ☐ Preapplication ☒ Construction ☐ Non-Construction

5. APPLICANT INFORMATION

Legal Name:	Organizational Unit:
City of Chicago	Department of Aviation
Address (give city, county, state, and zip code): P.O. Box 66142 Chicago, IL 60666	Name and telephone number of the person to be contacted on matters involving this application (give area code): Daryl McNabb (773) 686-3537

6. EMPLOYER IDENTIFICATION NUMBER (EIN): 36-6005820

7. TYPE OF APPLICANT: (enter appropriate letter in box) C
- A. State
- B. County
- C. Municipal
- D. Township
- E. Interstate
- F. Intermunicipal
- G. Special District
- H. Independent School Dist.
- I. State Controlled Institution of Higher Learning
- J. Private University
- K. Indian Tribe
- L. Individual
- M. Profit Organization
- N. Other (Specify): _____

8. TYPE OF APPLICATION:
☒ New ☐ Continuation ☐ Revision

If Revision, enter appropriate letter(s) in box(es): ☐ ☐
A. Increase Award B. Decrease Award C. Increase Duration
D. Decrease Duration Other (specify): _____

9. NAME OF FEDERAL AGENCY: Department of Transportation Federal Aviation Administration

10. CATALOG OF FEDERAL DOMESTIC ASSISTANCE NUMBER: 20.106

TITLE: Airport Improvement Program

11. DESCRIPTIVE TITLE OF APPLICANT'S PROJECT:
Runway 4L/22R & Taxiway C Rehabilitation (H612I)
Taxiway A/B Relocation (WH6104)
T6 Apron and Taxilanes-Beyond 80 Feet (WH6100)
Master Plan - Phase 2 (H0065-02)
Stop Bar Lighting at 5 Runway Locations (TBD)
Hangar Ramp Area Service Road Construction (TBD)

12. AREAS AFFECTED BY PROJECT (cities, counties, states, etc.):
Chicago Metropolitan Area

13. PROPOSED PROJECT:

Start Date	Ending Date
1/03	12/03

14. CONGRESSIONAL DISTRICTS OF:

a. Applicant	b. Project
City-wide	City-wide

15. ESTIMATED FUNDING:

a. Federal	$ 89,247,000	.00
b. Applicant	$ 29,749,000	.00
c. State	$	.00
d. Local	$	.00
e. Other	$	.00
f. Program Income	$	.00
g TOTAL	$ 118,996,000	.00

16. IS APPLICATION SUBJECT TO REVIEW BY STATE EXECUTIVE ORDER 12372 PROCESS?
a. YES. THIS PREAPPLICATION/APPLICATION WAS MADE AVAILABLE TO THE STATE EXECUTIVE ORDER 12372 PROCESS FOR REVIEW ON:
DATE _____
b. NO. ☒ PROGRAM IS NOT COVERED BY E.O. 12372
☐ OR PROGRAM HAS NOT BEEN SELECTED BY STATE FOR REVIEW

17. IS THE APPLICANT DELINQUENT ON ANY FEDERAL DEBT?
☐ Yes If "Yes," attach an explanation. ☒ No

18. TO THE BEST OF MY KNOWLEDGE AND BELIEF, ALL DATA IN THIS APPLICATION/PREAPPLICATION ARE TRUE AND CORRECT, THE DOCUMENT HAS BEEN DULY AUTHORIZED BY THE GOVERNING BODY OF THE APPLICANT AND THE APPLICANT WILL COMPLY WITH THE ATTACHED ASSURANCES IF THE ASSISTANCE IS AWARDED

a. Typed Name of Authorized Representative	b. Title	c. Telephone number
Thomas R. Walker	Commissioner of Aviation	(773) 686-8060
d. Signature of Authorized Representative: Thomas R Walker		e. Date Signed: 9/6/02

Previous Editions Not Usable

Standard Form 424 (REV 4-88)
Prescribed by OMB Circular A-102

MN

Authorized for Local Reproduction

*Section 18, Items a-e
CERTIFYING REPRESENTATIVE:

The state supports this application from the City of Chicago for Chicago O'Hare Airport for federal funding. The project request for Runway 4L/22R & Taxiway C Rehab(H6121), Taxiway A/B Relocation (WH6104), T6 Apron & Taxilanes-Beyond 80 feet (WH6100), Master Plan-Phase 2 (H0065-02), Stop Bar Lighting at 5 Runway Locations, Hangar Ramp Area Service Road Construction and follows the listing as contained in the Department's Proposed FY 2003-2007 AIP.

Hugh Van Voorst, Director
Division of Aeronautics
Illinois Dept. of Transportation

DEC 02 2002
Date Signed

Chicago O'Hare International Airport
Application for Federal Assistance
AIP #3-17-0022-56

O'Hare Modernization Program (OMP) Formulation

Planning Start: 01/01/03

Estimated Total Cost: $13,728,392

Planning Complete: 12/31/03

SCOPE: This project has been further defined in a Statement of Work dated August 12, 2003 (attached).

I. Introduction

This is the statement of work, dated August 12, 2003, for the services to be provided under the Federal Aviation Administration's (FAA's) Airport Improvement Program (AIP) grant #3-17-0022-56. This work will be performed in support of the on-going planning and Environmental Impact Statement (EIS) processes for the O'Hare Modernization Program (OMP).

The OMP proposes the reconfiguration of the airfield to provide significant delay reduction and capacity enhancement. This program proposes the development of a new runway in the east-west orientation and the relocation of three existing runways to an east-west orientation. This Program would ultimately provide six parallel east-west runways, a new western terminal complex, and a new roadway entrance from the west side of the airport.

The following task descriptions generally describe the proposed work scope to be covered by this AIP grant. Refined scopes may be provided as these services are contracted by the City of Chicago with the respective consultants. For purposes of this document, CCT refers to the City's Consulting Team, while FAA/TPC refers to the FAA and their Third Party Contractor.

The following table identifies the four primary areas applicable to this AIP Grant.

Estimated Allocation of Funds	
Preparation of EIS - TPC	**$7.0 million**
Technical Environmental Consulting by CCT	**$3.3 million**
Airfield/Airspace Simulation	**$2.0 million**
Surface Transportation Planning	**$1.5 million**
TOTAL	**$13.8 million**

Estimated Schedule: Payments under this grant are only for work to be conducted after the award of the grant which is generally expected to be awarded on August 15, 2003. For tasks which have been partially completed prior to the date of the award, the City will take all necessary steps to ensure that only work performed after the date of award is covered by the grant.

II. Preparation of Environmental Impact Statement (EIS) - TPC

The primary focus of the EIS study is to identify the impacts of the following development projects:

- Construction of one new Runway and associated taxiways:
    1. North East-West Runway (ultimate Runway 9L/27R)
- Realignment of three existing runways and associated taxiways:

1. Closely-spaced runway on north airfield (ultimate Runway 9C/27C)
2. Decommissioning of Existing Runway 18/36
3. Closely-spaced runway on south airfield (ultimate Runway 10C/28C)
4. Decommissioning of Existing Runway 14L/32R
5. South east-west runway (ultimate Runway 10R/28L)
6. Decommissioning of Existing Runway 14R/32L

- Extension of existing Runway 9L/27R (ultimate Runway 9R/27L) and associated taxiways
- Extension of existing Runway 9R/27L (ultimate Runway 10L/28R) and associated taxiways
- Terminal development on west airfield and associated on-airport roadway networks
- Accommodation of western access to the Airport
- Relocation of existing Union Pacific Railroad in south airfield as necessitated by the new western access and/or the runway realignment alternatives
- Relocation of Irving Park Road and on-airport roadways
- Relocation/development of miscellaneous airport user and support facilities
- Relocation of miscellaneous on/off airport utilities
- Relocation/reconfiguration of Willow-Higgins Creek and Bensenville Ditch
- Relocation/development of on-airport storm water detention basins
- Relocation of existing cemeteries (St. Johannes and Resthaven)
- Installation/relocation of approach light systems
- Installation, removal, or relocation of navigational aids on- and off-airport
- Construction of a new Air Traffic Control Tower(s)
- Identification of changes to air traffic procedures and airspace structure
- Identification of changes to approach procedures
- Land acquisition in areas northwest and southwest of existing O'Hare boundary
- Other issues as they may arise

In addition, the EIS must also address the potential for cumulative environmental impacts of other on-going or related improvements to O'Hare. Cumulative impacts may potentially include ongoing and future development in the vicinity of O'Hare and within the Greater Chicago Metropolitan Area.

The analysis must conform to and be processed in a manner consistent with applicable federal, state, regional and local statutes, regulations, and guidelines. The analysis must be conducted in accordance with Federal Aviation Administration Order 5050.4A, *Airport Environmental Handbook*, and FAA Order 1050.1D, *Policies and Procedures for Considering Environmental Impacts*, as updated. This Scope of Services is written in a form that generally parallels these orders. The final products must conform to the National Environmental Policy Act ("NEPA") (42 USC 423) et. Seq.); Council on Environmental Quality ("CEQ") regulations (40 CFR Parts 1500-1508); and applicable Department of Transportation ("DOT") Orders, FAA Orders, Federal Laws (i.e. Clean Air Act, Clean Water Act, etc.); State of Illinois Laws; and the Memorandum of Understanding between FAA and the City.

The estimated allocation for this element is $7,000,000.

Task 1 – Project Mobilization Activities (completed)

Task 2 – Federal Scoping Activities (completed)

Task 3 – Determination of Purpose and Need
The TPC will evaluate and document the purpose and need for the proposed re-configuration of O'Hare runways and associated facilities in this task. The project's purpose and need will form the basis of the alternative analysis, and the ability of all reasonable alternatives to meet the stated purpose and need must be carefully examined and thoroughly assessed.

Task 4 – Alternatives Analysis
In this task, the TPC will address alternatives to the proposed action. To meet the spirit and intent of the NEPA and CEQ regulations, the alternatives considered must be in response to and consistent with the project purpose and need. Therefore, a reasonable range of alternatives that will meet the need will be identified. The project purpose and need will form the basis of the alternatives analysis outlined in this task.

Task 5 – Affected Environment
As required by the FAA Orders 5050.4A and 1050.1D, as updated, NEPA, and CEQ, the TPC will review information provided by CCT and prepare a concise description of the affected environment. This task will describe Airport environs, which will be considered to include those areas that, as a result of airport improvements, may be: 1) affected by construction activity, 2) exposed to significant levels of aircraft noise (65 DNL and greater); 3) exposed to noise levels above the 60 DNL and below 65 DNL as determined by a noise impact analysis conducted in accordance with Federal Interagency Committee of Noise ("FICON") requirements; 4) impacts to other environmental resources; 5) affected by residential or commercial relocation; or 6) affected by changes in surface transportation patterns.

Task 6 – Environmental Consequences
This task will involve the TPC technical analyses of the direct, indirect, and cumulative environmental effects of the proposed improvements and other reasonable alternatives for specific impact categories listed in FAA Orders 5050.4A and 1050.1D, as updated.

Task 7 – Draft Report Preparation
The TPC will be responsible for preparing, printing and distribution of the Preliminary Draft EIS and Draft EIS.

Task 8 – Public Involvement
The TPC, in coordination with the FAA, will develop and implement an extensive public involvement program to allow interested agencies, groups, and individuals, ample opportunity to review and comment on the study.

Task 9 – Final EIS Report Preparation
The FAA will prepare the Final EIS with assistance from the TPC and will take responsibility for its scope and content. This includes preparation of response to comments and revision of the Draft EIS. Subsequent to this, the TPC will aid the FAA in the preparation of the Final EIS.

Task 10 – Section 404 Permit Activities (Wetlands)
Information needed for the development of a Federal 404 permit pursuant to 33 CFR Parts 320 through 330 will be collected and/or developed, and compiled into a formal permit application. Throughout the EIS process, additional coordination will be required with the FAA, TPC, CCT and all of the various regulatory agencies for the required permits. Ultimately, the TPC will incorporate this information into the EIS.

Task 11 – Environmental Due Diligence Audits (Hazardous Waste)
Planned improvements to O'Hare require the acquisition and possible remediation of adjacent properties. FAA Orders 1050.19, *Environmental Due Diligence Audits in the Conduct of FAA Real Property Transactions*, August 22, 1994, will be reviewed by the TPC in order to assure that any property acquisition is consistent with this guidance, and that potential environmental liabilities have been adequately identified and addressed.

Task 12 – Project Management
In this task, the TPC will provide the day-to-day coordination and management of the EIS. It includes monthly project progress report preparation, meeting minutes preparation, subcontractor coordination, FAA and City coordination, schedule monitoring, task order preparation, MBE/WBE oversight/coordination, invoicing, cost control, and project close-out procedures. The TPC will arrange and participate in scheduled/periodic/monthly meetings during the conduct of the EIS. Work products for this task will include meeting minutes, project schedules, status reports, etc.

Task 13 – Assist with Draft Record of Decision/Record of Approval Preparation
FAA will prepare and issue the FAA Record of Decision ("ROD"). The TPC, as directed by the FAA, shall provide FAA with 500 printed/bound copies of the Record of Decision, and copies of the full text of the ROD on computer disks in both the "html" and "pdf" formats. Finally, TPC will assist the FAA with distribution of the Final EIS and the ROD.

Task 14 – Processing FAA Freedom of Information Act ("FOIA") Requests
The TPC will assist the FAA in processing Freedom of Information Act ("FOIA") requests and requests for the information associated with potential litigation.

Task 15 – Assemble and Document Record and Index
The TPC will establish and maintain a Project Filing System ("PFS") to facilitate coordination and eventual preparation of the Administrative Record ("AR"). It will consist of a complete, well-organized, standardized database of each document and three copies of all documents relating to the EIS to be used by the FAA in its decision-making process (Record of Decision).

III. Technical Environmental Consulting - CCT

These tasks will ensure that development of the Technical Working Reports by the CCT and other technical analyses are technically sound (e.g., technically accurate, appropriate, and complete), and are consistent with respect to the objectives and scope of this Program.

This task involves coordination and assistance efforts with the TPC and appropriate agencies in areas of noise and air quality analyses, as well as actual creation of noise analysis input files, as well as development of Best Management Practices for air quality emissions reduction efforts, in support of the EIS.

Finally, this task involves the development of information relative to the affected environment for inclusion in a Technical Working Report for submission to the FAA and TPC for consideration.

The estimated allocation for this element is $3,300,000.

Task 1 – Technical Liaison Team
The Technical Liaison Team will serve as the primary technical coordinators for the various CCT members charged with the preparation and review of the Technical Working Reports, and other technical analyses. This task involves the direct coordination of the preparation and internal review of the required technical analysis, as well as review by FAA and TPC.

Task 2 - Air Quality Coordination
This task is required to develop an understanding of the potential air quality impacts and health effects of the OMP, which will comply with the National Environmental Policy Act (NEPA) and other applicable laws and regulations. This task includes assisting in the analysis, development and production of an Air Quality Technical Working Report.

Task 2.1 – Develop Coordination Plan
The CCT will develop a coordination plan that will annotate necessary relationships between Program Team members and external parties in order to successfully complete the air quality analysis.

Task 2.2 – Agency Coordination on Air Quality Issues
CCT will coordinate with the appropriate federal, state, and local air quality agencies to develop a strategic plan for final study approval. A timeline will be developed for preparing and reviewing the air quality methodology and protocol. Coordination with key agencies will be on-going throughout the entire EIS process.

Task 2.3 – Air Quality Protocol Assistance
The CCT will assist in the assembly of an air quality protocol that identifies the assumptions, methodologies, data sources, and air quality models to be used in conducting the air quality impact analyses for the OMP. The protocol will include agency requirements based on scoping and coordination meetings. As the air quality

analysis progresses, the protocols will be revised to reflect the new information and the results of the analyses.

Task 2.4 – Update Baseline Condition
The CCT will assist the TPC to accurately quantify air quality impacts for the OMP Baseline Condition.

Task 2.5 – Coordinate Air Quality Input Data and Analysis
The CCT will work with TPC to ensure that the modeling input information, assumptions, background data, methodology, data transfer, and processing of project detail are efficient and complete. The modeling process and deliverables are defined in the air quality protocols.

Task 2.6 – Alternatives Air Quality Evaluation
As requested, the CCT will provide detailed screening evaluations of alternatives to assess air quality impacts.

Task 3 – OMP Air Quality Best Management Practices (BMPs)
During the Agency Scoping meetings, the United States Environmental Protection Agency (USEPA) and the Illinois Environmental Protection Agency (IEPA) requested a demonstration of air quality best management practices (BMPs) that will be implemented concurrently with the planning and development of the OMP, as well as a description of the existing air quality BMPs already in place at the Airport. The USEPA and IEPA suggested that the air quality BMPs utilize best available technology and common sense initiatives to reduce Airport emissions during the construction phases of OMP, provide for permanent operational emission reductions from the use of clean-burning fuels for airport fleet vehicles, and expedite airport emission reductions ahead of regulatory mandates. These Agencies requested that the air quality BMPs be included in the Federal Aviation Administration's (FAA) Environmental Impact Statement (EIS).

Task 3.1 – Assemble Strategic Air Quality Best Management Practices Document
The following tasks described below will be documented in one comprehensive volume. The volume will describe and summarize emission savings and approximate financial obligations from existing air quality improvement measures as well as future air quality practices. The appendices of this document will include the technical and financial information supporting the air quality BMPs.

Task 3.2 - Revise the 1998 Air Quality Improvement Program (AQIP) Report for Existing Conditions
The 1998 version of the AQIP highlights the emission savings from existing air quality improvement aspects of O'Hare. Namely, emissions saved from mass transit improvements, the Airport Transit System (ATS), terminal core improvements, airside improvements, existing clean-fueled fleet vehicles, and other miscellaneous air quality efforts. The activities of this task are intended to update the AQIP report to reflect OMP Baseline conditions.

Task 3.3 – Clean Fuel Options for Airport Vehicles
In order to meet the requests of the USEPA and IEPA, a detailed vehicle inventory including ground support equipment (GSE) and ground access vehicles (GAV) will be performed. This inventory will establish the baseline of airport-wide vehicle fuel usage and vehicle emission reductions from the implementation of alternative fuels programs for O'Hare's tenants, vendors, and the Chicago DOA vehicle fleet.

Task 3.4 – Clean Construction Options
The CCT will assist in identifying clean fuels and emission reduction technology that will reduce emissions from diesel construction activities. The options will be presented in a manner which builds from a baseline of using regular diesel fuel in non-Tier compliant engines with no control options, and then steps up the emission savings options as follows:

- Using non-Tier compliant engines with ultra low sulfur diesel (ULSD)
- Using Tier compliant engines with regular diesel
- Using Tier compliant engines with ULSD
- Using Tier compliant engines with ULSD and feasible control technologies (i.e., particular filters and catalytic oxidizers)

For each option above, the approximate benefits/costs analysis, technical aspects, and emission savings will be summarized and presented for discussion and consideration. The resultant choice will be communicated to the FAA/TPC for inclusion in the air quality portions of the EIS as part of the demonstration of air quality BMPs.

Task 4 – OMP Affected Environment Technical Working Report
This task is required to describe the affected environment for the Project to enable subsequent impact analysis for compliance with applicable Federal laws and regulations.

The task objective is for the CCT to produce a description of the affected environment that would be suitable for submission to FAA for use in an Environmental Impact Statement (EIS) for the Project. The resulting Technical Working Report will provide a satisfactory foundation for environmental impact analyses to be conducted in compliance with the National Environmental Policy Act (NEPA) (42 USC 4231 et seq.); the FAA Orders implementing NEPA (Order 5050.4A, *Airport Environmental Handbook*, and Order 1050.1D, *Policies and Procedures for Considering Environmental Impacts*, as updated); Council on Environmental Quality (CEQ) regulations (40 CFR Parts 1500-1508); and other applicable laws and regulations.

Task 4.1 – Study Area Definition
In consultation with the FAA and TPC, the study area(s) will be defined.

Task 4.2 – Land Use Mapping
The CCT will prepare existing land use and zoning maps for the study area. This updated information will be reflected on appropriate base maps.

Task 4.3 – Natural Environment Description

The CCT will summarize the following in the within the study area: surface transportation, floodplains, wetlands, water quality, biotic communities & threatened endangered species, air quality, solid waste and hazardous materials and coastal zone management.

Task 4.4 – Historic Resources Description
The CCT will describe historic, architectural, archaeological, and cultural resources in the study area.

Task 4.5 – Socioeconomic Profile
The CCT will collect the information needed to provide an overview of the demographic and economic conditions in the metropolitan area. Detailed information on the population within the study area is needed to determine whether any adverse impacts would result from the Project with emphasis on low-income people or minorities.

Task 4.6 – Prepare Technical Working Report
The CCT will develop a Technical Working Report for submittal to the FAA and TPC, reporting results of analyses.

Task 5 – Noise Analysis Support
This task involves CCT assistance in coordinating preliminary information and data for the OMP noise analysis. The primary objective of this task is to provide coordination and review of preliminary information related to noise exposure analysis to be conducted by the FAA and TPC.

Task 5.1 – Existing Conditions Evaluation
The CCT will collect current Airport Noise Monitoring System (ANMS) data. The CCT will conduct comparisons to identify similarities and/or differences from the existing noise contour, and conduct analysis to quantify significance of differences if warranted. The CCT will prepare a summary paper on the findings of this analysis.

Task 5.2 – Noise Modeling Protocol Development
This task involves CCT efforts to establish an acceptable Noise Modeling Protocol for developing input data and calculating noise levels. The objective is to obtain acceptance by the FAA for use of this protocol to meet the EIS requirements. Information related to specific future years and project alternatives will not be required in the protocol description. The primary goal of this task will be to determine which models are to be used, the versions of each model to be used, the primary data to be utilized, and a general overview on how the data will be processed.

Task 5.3 – Coordination of Data Transfer to Noise Model
This task involves CCT review to ensure that Total Airspace and Airport Modeller (TAAM) output files reasonably represent a projected average annual day (AAD) for each scenario studied. Coordination efforts will focus on key input elements such as flight tracks, runway use assignments, fleet mix, and day/night distribution for each scenario.

Task 5.4 – Initial Data Collection
This task will involve CCT preliminary collection and review of data required for noise analysis by the FAA TPC. The CCT will collect information on existing and forecasted aircraft ground run-ups. The CCT will also review Integrated Noise Model (INM) flight tracks and flight profiles developed for the O'Hare 2000 Noise Contour, extending them where necessary to meet the requirements of FAA Notice 7210.360, "Air Traffic Noise Screening Above 3,000 feet AGL." A package of data and materials will be provided to the FAA and TPC for their review and consideration.

Task 5.5 – Assistance to FAA TPC
The CCT will provide assistance, upon request, to the FAA TPC in all phases of the noise analyses. Major areas that may require assistance are the development and review of input data for each alternative and scenario. The primary objective for the CCT will be to share its long-term experience at the Airport with the FAA TPC. The CCT will also ensure consistency with the noise modeling protocol.

Task 5.6 – Assistance to Alternative Development
The CCT will provide assistance in conducting noise analysis screening and sensitivity analysis for proposed alternatives and altered assumptions. Screening and sensitivity assessments may be limited based on available data. This task will provide initial screening results to assist during the alternative development phase. The results will not replace detailed analysis required under the NEPA.

Task 6 – OMP Noise Modeling Input Development
The development of OMP is expected to result in significant changes in noise exposure in the Study Area. This task includes CCT support with direct coordination related to the FAA and TPC noise modeling efforts in support of the EIS. Coordination may involve direct involvement in input development as well as providing concurrence to all modeling assumptions.

Task 6.1 – Existing Conditions Evaluation
The CCT will develop the Existing Conditions noise contour that will be utilized by the FAA for the OMP EIS. The CCT will coordinate with the TPC to review methodology, input data and results.

Task 6.2 – Future No Action Data Development
This task involves the CCT application of future No Action TAAM data to adjust Existing Conditions input as necessary, and assign future scheduled events to the adjusted structure. The final product of this task will be a set of INM input files for FAA TPC use for each of the no-action years of analysis.

Task 6.3 – Future Proposed Action Noise Input Review and Concurrence
This task involves a procedure that will ensure an accurate review and establish consensus with the TPC's future Proposed Action noise analysis methodology, input assumptions and output results. The results of this task will be reviewed and reconciled

with the TPC and their assumptions. The TPC will be responsible for final input to be used by the OMP EIS.

Task 7 – Other Support (as needed)
Throughout the course of the planning and the development of the EIS, additional technical support may be required. This may include the need to supplement on-going analyses with additional support or additional Technical Working Reports from CCT members, as the work progresses and additional alternatives or technical analysis is required.

IV. Airfield/Airspace Simulation

In accordance with planning and environmental analyses associated with the OMP, airfield and airspace simulation of baseline configurations and potential future concepts will be performed utilizing the TAAM simulation model. This simulation of future conditions will generally follow the desired concept layouts as determined by other planning processes. The following tasks generally describe the tasks to be included.

The estimated allocation for this element is $2,000,000.

Task 1 – Experiment Design
An experiment design will be developed by the CCT for the baseline and future simulation experiments in support of the EIS. This design will define runway use, operating configurations, weather conditions, demand levels, and other associated details for each simulation experiment.

Task 2 – Baseline and Future Schedules
Schedules for aeronautical activity will be developed by the CCT based on the Planning Activity Levels (PALs) that are defined through other planning analysis. These schedules will be used as inputs for future simulation experiments.

Task 3 – Baseline and Future Simulation
Based on input from the FAA on airfield and airspace design and operating procedures, a TAAM model will be developed by the CCT to simulate the desired simulation concepts. This model will focus on airspace structure, airfield layouts, and operating parameters. Future experiments will be performed to produce desired performance analysis.

Task 4 – Evaluation of Simulation Results
Based on the simulation experiments that are performed, evaluations of experiment results will be performed to analyze each baseline and future concept.

Task 5 – Documentation
A discussion outline will be prepared that presents methodologies, assumptions, calibration conclusions, and findings.

V. Surface Transportation Planning

The estimated allocation for this element is $1,500,000.

Task 1 – Project Definition
The CCT will develop surface transportation components for OMP project definition phase and include as a Technical Working Report. Prepare surface transportation concepts (primarily roadways, parking, and curb front) for the OMP. Integrate these concepts into the airfield, terminal, and support/cargo elements of the program. Work with the city and local transportation agencies (especially IDOT) to integrate local and regional transportation improvements. Work with other members of the team to integrate railroad and people mover concepts.

Task 2 – Surface Transportation Analysis
The CCT will evaluate the surface transportation system alternatives for the OMP. This will include the measures of effectiveness for no action and build conditions for the future year alternatives.

Task 2.1 - Develop surface transportation components for the alternatives
The CCT will develop the detailed components for the activity scenarios that will be evaluated. These components will be based on the alternatives developed in the project definition phase. This task will require close interaction with the rest of the project team.

Task 2.2 - Refine the methodology for the surface transportation analysis
The proposed methodology for the surface transportation analysis will be refined by the CCT based on the final requirements for the input to the air quality and noise analysis and on the final outline for the surface transportation chapter.

Task 2.3 - Modify the surface transportation model based on Task 2.2
The CCT will perform the modifications to the surface transportation model to address the most current needs of the Project.

Task 2.4 - Apply surface transportation model to the future activity scenarios
The CCT will code the surface transportation networks for the future scenarios; generate, distribute, and assign the trips.

Task 2.5 – Agency Coordination
The CCT, in conjunction with the FAA and TPC will coordinate with various Federal, State and local agencies, including FHWA, FTA, IDOT, NIPC, CATS, Cook and DuPage Counties.

APPENDIX C

D-PROJECT DEFINITION REPORT, CONCEPT DEVELOPMENT/REFINEMNET REPORT, AND AIRSIDE SIMULATION ANALYSIS

D-1) Page 6 of the Project Definition Report discusses the future relocation of Runway 9R/27L to the north to provide duel ADG V taxiways around the north side of the terminal area. On page 80 it discusses a cross-airfield roadway in the same area between Runway 9R/27L and Runway 9C/27C. Discuss the co-location and dimensions of these facilities and any conflicts that may arise due to their close proximity. If the cross-airfield roadway remains as part of the discussion in the Project Definition Report without showing future location on the ALP, it will be subject to a future airspace review under 14 CFR part 77 and may impact the safe and efficient use of airspace system

D-2) Page 7 paragraph 3.1.2, states, "Taxiway Q, and exit taxiway off Runway 22R..." The reference to Runway 22R should be Runway 22L.

D-3) On page 8 of the *Project Definition Report* it discusses the proximity of Runway 10C/28C to the Southwest Cargo Area results in penetrations to Code of Federal Regulation (CFR) Part 77 Transition Surfaces. It states that to meet CFR Part 77 criteria, the center section of the runway would need to be raised approximately 23 feet or the facilities relocated at a substantial cost. Furthermore, a portion of Taxiway K would have to be raised approximately 9 feet to meet the FAA maximum runway to parallel taxiway grade criteria of 1.5 percent. Through the use of TERPS criteria, the future runway profile follows existing ground contour elevations and maintains crossing point elevations with existing runway and taxiways. The TERPS Obstacle Clearance Surfaces based on this runway profile clear the obstruction building allowing them to remain in their existing location, although nine light posts will have to be removed or lowered. Please provide clarification on whether the runway will be raised in order to clear Part 77 surfaces or are there still going to be Part 77 penetrations? Will this result in any approach restrictions? In addition it states that there will only be nine light poles removed or lowered. Sheet 35 of the ALP drawing set shows 45 poles.

D-4) The *Project Definition Report* states that departing ADG VI aircraft will access the 28C hold pad area via existing Taxiway "S" that will be upgraded to ADG VI width (page 8). Under what operational scenario will this occur? Wouldn't this conflict with inbound arrivals from 28L in the VFR west configuration (Exhibit V-33 in the ASA)?

D-5) Page 9, under the planned profile, roads and railroads in the Runway 10R approach pose penetrations to the FAR Part 77 surfaces. None of these items, however, violate TERPS obstacle clearance surfaces associated with this runway. To meet FAR part 77 criteria, the west end of the runway would have to be raised approximately 26 feet in elevation. Such a runway profile is operationally undesirable and would add significant cost to the project. Discuss what undesirable operational situations this would create and how the costs were determined to be significant so as to not increase the runway elevation.

D-6) Page 9, taxiway S is located in the east end of the Runway 10R/28L Runway Safety Area. As such Taxiway S will be restricted and/or controlled during operations on Runway 10R/28L to ensure availability of the full safety area. What impact will this have on the overall operation of the airport? Where there any other alternatives reviewed before making the decision to place this restriction on a taxiway in order to maintain a safety area?

D-7) What runways will ADG VI aircraft use for departures in the IFR East and West flows? According to Exhibits V-35 and V-37 of the *Airside Simulation Report* and Exhibit 9 of the *Project Definition Report,* only the inboard runways (Runways 9R/27L and 10L/28R) will be used for departures. These runways are only 150 feet wide; 200 feet is proposed for ADG VI runways. If ADG VI aircraft will be departing from 9C/27C or 10C/28C, what is the proposed taxiway routing for these aircraft to reach these runways and what impacts, if any, are there on the taxiway flows as simulated?

D-8) What is the proposed taxiway circulation for ADG VI aircraft to and from the Southwest cargo area? Will this traffic have any impacts on the traffic flow as depicted on the taxiway route diagrams? Also, Exhibit 9 of the *Project Definition Report* indicates that NLA aircraft will access the eastern air cargo apron via Taxiway "T12". This taxiway appears to be 75' wide on the ALP and is not shown to be widened or strengthened for A380 operations.

D-9) Page 26 Paragraph 4 of the *Project Definition Report* discusses plans for the O'Hare and/or Western By-Pass connecting I-90 and I-294 and western access through the extension of the Elgin O'Hare Expressway. This section does not state source documentation or responsible parties for the roadway development or the type and amount of traffic using the western access in relation to the capacity of York Road versus the Elgin O'Hare Expressway. The type and amount of traffic using a western access is: a) directly related to the degree of functionality of the western terminal as well as its connectivity to the eastern terminal, and b) is a major determinant of the surface transportation component of FAA's forthcoming EIS. In addition the Western By-Pass if developed at a future date will require a 14 CFR Part 77 review and its location may impact safe and efficient use of the airspace system.

D-10) Page 26 Paragraph 4.3 of the *Project Definition Report* states, "the push-back areas will be provided abeam ramp areas on the east side of the west terminal... and the west side of the satellite concourse (213 feet to accommodate ADG V aircraft)". The reference to 213 feet shows 212 feet on Exhibit16.

D-11) Page 27 Paragraph 4.3 of the *Project Definition Report* discusses the West Terminal accommodating 15 jumbo wide-body gates, but should also discuss the NLA gates as well.

D-12) Page 53 Section 8.1 of the *Project Definition Report* and Section 5.4 of the *Concept Development and Refinement Report* are inconsistent with what is depicted on the Future

ALP. The text discusses the relocation of Bensenville Ditch, Union Pacific Railroad, and Irving Park Road. The Future ALP depicts a surface parking lot.

D-13) The *Project Definition Report* schedules the West Concourse to open in 2009. On page 73 of the *Project Definition Report*, under WS-3 Automated People Mover, it is stated: "The transfer of passengers and employees between the Terminal Core area and the new West Satellite Concourse may require the construction of the Automated People Mover. Page 80 of the *Project Definition Report* states: "The O'Hare Modernization Program provides for a secure people mover connection between the West Terminal and the East Terminal area. If the Automated People Mover is not in operation by 2009, how will people and materials access the West Satellite Concourse? In addition there needs to be discussion on the use of this Automated People mover and the type of passengers using this system (connecting passengers or originating passengers)

D-14) Section IV of the *Concept Development/Refinement Report* discusses support/ancillary facilities. Does the City have any additional information on the anticipated needs of current and future tenants at this time?

D-15) Based on information in the *Concept Development Refinement Report* Section 5.2 and 5.2.1.3 Consideration should be taken in designing the western terminal access to prevent future cost and construction impact when developing the proposed Western Bypass and Elgin O'Hare Expressway.

D-16) At the top of page II-8 of the *Concept Development /Refinement Report* it refers to "Advisory Sessions held with FAA, airlines, and others..." Identify whom "others" include.

APPENDIX D

U.S. Department
of Transportation
**Federal Aviation
Administration**

Great Lakes Region
Illinois, Indiana, Michigan,
Minnesota, North Dakota,
Ohio, South Dakota,
Wisconsin

Chicago Airports District Office
2300 East Devon Avenue, Suite 320
Des Plaines, Illinois 60018

October 6, 2003

Mr. Chris Arman
Deputy Commissioner
O'Hare Modernization Program
Department of Aviation
Post Office Box 66142
Chicago, Illinois 60666

Dear Mr. Arman,

We have completed a comprehensive review of the following draft reports submitted to the Federal Aviation Administration (FAA) by the City of Chicago on February 7 and March 6, 2003; *Project Definition Report, Concept/Development Refinement Report, Unconstrained Demand Analysis Report, Airport Layout Plan Submittal, and Airside Simulation Analysis Report.* Our review was based on master plan processes and procedures found in Advisory Circular 150/5070-6A, *Airport Master Plans.*

The results of our review are set forth in the attached technical comments. These comments should be addressed and incorporated in the final O'Hare Modernization Program master plan report. As you are aware, the FAA has approval authority only on the forecast, benefit cost analysis and airport layout plan portions of the master plan process. Our review of the master plan document is based on determining FAA standards have been met and planning techniques have been applied in the development of the final report and ensuring completion and submission of work items as specified in the grant agreement, all of which are included in the attached comments.

We are available to meet with representatives of your office to discuss the items in the attached document and to provide any technical assistance necessary to facilitate the development of the City's master plan report.

If you have any questions or wish to further discuss the attached comments, please contact my office at (847) 294-7812.

Sincerely,

Barry D. Cooper
Manager, Chicago Area Modernization Program Office

Attachment

Concept Development/Refinement Report

A-1. Page II-3, paragraph 3; provide justification on why a 13 knot allowable crosswind was used when Airport Design Group A-1 and B-1, which consist of 0.6% of the operation has an allowable crosswind of 10.5 knots.

A-2. Table II-2; shows under precipitation the Runway 9-27 & 4-22 combination only has 94.0% wind coverage both during the daytime operating hours and all hours analysis. In accordance with Advisory Circular (AC) 150/5300-13, Airport Design, the criteria is 95 percent for total wind observations. Provide information in the text on how the proposed configuration meets this standard. (See comment A-1)

A-3. Page II-5, Section 2.1.1.2, paragraph 4; provide additional data to justify why it is acceptable that none of the orientation meet 95 percent coverage for 10.5 knots crosswind.

A-4. Page II-6, section 2.1.2; verify when the New Large Aircraft (NLA) will begin commercial service at O'Hare International Airport and provide consistency throughout all of the O'Hare Modernization Program (OMP) planning documents (Project Definition, Unconstrained Demand Analysis, and Airside Simulation Analysis Report), 2006 or 2009.

A-5. Page II-6, section 2.1.2, paragraph 2; verify the length required for the NLA and provide consistency throughout all of the OMP planning documents.

A-6. Page II-6, section 2.1.2, paragraph 2; NLA are shown in the Project Definition Report to only have parking positions available at the Western Terminal and West Satellite Terminal, not at the International Terminal 5 or the new international arrival facilities (assuming to be Terminal 2 under World Gateway Program (WGP).

A-7. Table II-5; verify runway length needed for NLA.

A-8. Page II-8, paragraph 1; verify the length needed by the most demanding aircraft, under the most demanding condition. It appears to be 12,250 feet. If this is the requirement and aircraft performance is improving, how and why justify a 13,000-foot runway with declared distances?

A-9. Page II-8, paragraph 2, last sentence; "Based on manufacturer's information, new ADG VI runways with departure lengths greater than 10,300 feet should be provided where practicable." Runway 10C/28C must use declared distances to provide a standard safety area when Design Group VI aircraft are on Taxiway S. This still provides a length of 10,543 feet. Please provide information why declared distances are used in order to maintain 10,600 feet of departure and arrival length on Runway 28C, when according to all the information presented in

this document the manufacturer reports greater than 10,300 feet are needed where practicable. Provide the practicability for using declared distance to gain 300 feet, when it is a design provision only to be used on a prior constrained runway.

A-10. Page II-13, paragraph one; "Departure Runways are 27C, 28C, and Runway 22L." In the text Runway 22L should be identified as a secondary departure runway.

A-11. Throughout Section II, provide consistent text to describe Federal Aviation Administration (FAA) approval prior to IFR and VFR quad operations.

A-12. Throughout Section II, provide consistent text when identifying the secondary/overflow, departure or arrival runway.

A-13. Page II-14, Option 4, second to last sentence; "Departures occur on Runway 27C, 28C, and 22L." In text Runway 22L should be identified as a secondary departure runway.

A-14. Page II-14, Option 5; clarify this section. Was Option 5 the base case or one of the options put forth for review and consideration that thus became the preferred option? What does Option 5 consist of, provide text as provided in Option 1-5.

A-15. Page II-15, section 2.4.2; the last two sentences of this paragraph discuss the original intent to provide 10,000 feet on Runway 9C/27C. ATCT indicated the desire to cross aircraft behind the departing aircraft so a length of 11,245 feet was provided. Does this length take into consideration the need for NLA to have 10,300 feet for departure?

A-16. Page II-15, section 2.4.3, paragraph 2, describes how the south airfield is more suitable to be designed for Aircraft Design Group (ADG) VI aircraft guidelines given that the existing terminal area essentially "opens" to the south. Why is this a planning factor since the Project Definition Report (PDR) shows all ADG VI aircraft located in the Western Terminal complex?

A-17. Page II-15, section 2.4.3, paragraph 2, last sentence; how do the departing South America flights affect traffic flow?

A-18. Page II-16, bullet 8; provide additional information on the potential congestion that exists between Runway 27C and 27L for ADG VI aircraft and the solution for this situation.

A-19. Page II-17, bullet 5; provide additional information on the potential congestion that exists at the end of Runway 10L/28R and Runway 10C/28C because of runway crossings required for ADG VI aircraft and the solution for this situation.

A-20. Page II-17, bullet 4; reevaluate taxiway flow for ADG VI aircraft, according to the PDR they do not have parking areas designated in Terminal 5.

A-21. Page II-18, bullet 1; if the taxi flows depicted in exhibit I-40 are correct, aircraft landing on Runway 9C, would also have to cross Runway 10L and Runway 10C in order to reach Terminal 5 (see comment A-20).

A-22. Page II-18, section 2.4.4; the assumption about the use of the parallel taxiway during Category II/III approaches when there is a runway/taxiway separation of 400 feet is incorrect. At no time can an ADG V aircraft be on any portion of the taxiway while another aircraft occupies the runway and vice versa. (See Draft ALP comment A-48 issued May 21, 2003.)

A-23. Page II-19, paragraph 1,3, and 5; why did the study use "terminal gate facilities to support operations at the highest demand level to allow for a full analysis of the airfield capacity without gate constraints". Explain the gate capacity used and if additional gates are needed beyond Planned Activity Level (PAL) 1 and PAL 2.

A-24. Page II-19, paragraph 6; based on accessibility to the southern most runway, verify the ability to achieve peak hour departure and arrival numbers (see Draft ALP comment B-95 issued August 6, 2003).

A-25. Page II-20, section 2.5.1; See Draft ALP comment B-100 issued May 21, 2003.

A-26. Page II-20, section 2.5.3; verify the length that critical aircraft require for departure and arrival, 12,250 feet, and the declared distance, 12,249 feet. Provide justification for the use of declared distances, such as critical aircraft. Also provide all appropriate declared distance information such as Take Off Distance Available (TODA), Take Off Run Available (TORA), and Accelerated Stop Distance Available (ASDA).

A-27. Page II-20, section 2.5.4; "Runway 10C localizer...located east of Runway 4L/22R" should be "east of Runway 4R/22L"

A-28. Page II-20 and II-21, section 2.5.4; verify runway length and provide information on TODA, TORA, and ASDA.

A-29. Page II-21, section 2.5.5, paragraph 2; reconcile this paragraph with the results of the City's review of the ALP comments submitted to the City on May 21 and August 6, 2003.

A-30. Page II-22, paragraph 2; change the reference to "Exhibit II-55" to "Exhibit II-47".

A-31. Page II-22, paragraph 4; the study of the current Runway 9L/27R Category II/III approach capability is not part of OMP. In addition the assumptions in this paragraph are not correct, refer to the forthcoming response to Airspace Case Number 2003-AGL-0005-NRA.

A-32. Page II-25, section 2.5.8.1; do not designate runways as "primarily" arrival or departure runways.

A-33. Page II-25, paragraph 1; this paragraph seems to be out of place. In addition ORD does not have an approved SMGCS plan on file with the FAA.

A-34. General comment throughout document is to change reference made to FAR (Federal Acquisition Regulations) to 14 CFR (Code of Federal Regulations).

A-35. Page II-25, section 2.5.8, paragraph 3; describe what operational concerns of the runway profile are mitigated with the "flat runway" concept.

A-36. Page II-25, section 2.5.8.1; verify length of Runway 10C/28C.

A-37. Page II-26, section 2.5.8.2, paragraph 4; document the increase in grade affect takeoff performance.

A-38. Page II-27, section 2.5.6.3, paragraph 6 and paragraph 7 on page II-28; reference the lighting standards for auto parking and apron area lighting standards described in this paragraph.

A-39. Table II-7, why are numbers 4 and 7 highlighted? Also, what is the footnote reference for "These objects penetrate the 40:1 surface"? The text indicates all items in this chart penetrate the 40:1 surface.

A-40. Table II-7, These objects must be studied under an airspace analysis and appropriate actions must be taken.

A-41. Page II-29; paragraph 2; verify whether this approach must meet MLS or ILS TERPS standards. The approach surface should meet the 50:1 standards found in 14 CFR part 77.

A-42. Page II-30; include an exhibit that shows the South Tower shadowing if applicable.

A-43. Exhibit II-2; remove Runway 14L/32R, 14R/32L and 18/36 depictions.

A-44. Exhibit II-37 through 40; use an airport diagram that more accurately reflects the taxiway configuration around the West Terminal Complex.

A-45. Exhibit II-44; improve the exhibit to more accurately show declared distances including TORA, TODA, and ASDA.

A-46. Add an exhibit to show the declared distance lengths on Runway 10C/28C, including Landing Distance Available (LDA), ASDA, TORA, and TODA.

A-47. Exhibit II-46; change the exhibit to reflect changes made based on City's response to FAA's ALP comments.

A-48. Exhibit II-49; change title to reflect existing Runway 27L.

A-49. Page III-2, paragraph 1; update information on gate capacity based on Note to File, OMP 2018 Gate Requirements, Ura Yvan, Ricondo & Associates – June 18, 2003 and Memo from FAA's Third Party Contractor, OMP EIS – LFA Review of OMP Gate Requirements dated July 23, 2003 and verify consistency with *Project Definition Report.*

A-50. Page III-2, section 3.2, paragraph 1; the last sentence "potential range of options that might be available in each area to meet the potential gate needs of the Airport both in the timeframe envisioned in the OMP, and beyond" indicates that there will be enough gates to support the levels identified in section 3.1 past 2018. This may not be the situation based on Note to File, OMP 2018 Gate Requirements, Ura Yvan, Ricondo & Associates – June 18, 2003; Memo from FAA's Third Party Contractor, OMP EIS – LFA Review of OMP Gate Requirements dated July 23, 2003; and information provided in the *Project Definition Report.* Update this paragraph to reflect the most current planning.

A-51. Page III-4, bullet 2; "assuming development is allowed within the existing Runway 4L RPZ." Development is not allowed in the RPZ, why assume it here?

A-52. Page III-4, section 3.2.2.1, bullet 2-4; change either the exhibit titles or change the concepts to 1 through 4.

A-53. Page III-5, section 3.2.3, bullet 2; change "bride" to "bridge".

A-54. Page III-6 and 7, section 3.2.4; add information on passenger convenience, international processing, gate capacity, and in general, needs of WGP. Also address need for additional gates for 2018 and beyond.

A-55. Page III-8, section 3.3.2; explain why the switch was made from wide body jets in the WGP to Regional Jets in OMP. Why is a mix of gates that include narrow body jets and multi use gates not included?

A-56. Page III-9, paragraph 3; explain what terminal or gates are meant by the following, "As such, development of additional facilities in the Terminal Core or East Terminal Area other than those currently planned is not anticipated during the analysis period". Is this an indirect reference to WGP?

A-57. Page III-9, section 3.4, bullet 2; verify whether two or three satellites could be provided without impacting taxiway facilities planned to be retained.

A-58. Page III-10, paragraph 2; rewrite paragraph to better discuss curb-front requirements for the Western Terminal and draw the conclusion that the proposed concept is able to meet and even exceed the current areas.

A-59. Page III-10, paragraph 3; explain why an Federal Inspection Services (FIS) is needed if there are no international arrivals in the west terminal, as discussed in paragraph 2 on this page.

A-60. Page III-10, footnote 6; OMP includes portions of WGP, thus should not be sited separately in this footnote.

A-61. General Comments on Section III.

a. Add discussion on gate capacity and gate development through 2030 or PAL2, which are the levels used in the Unconstrained Demand Analysis Report and ALP Report. At a minimum proved text that additional analysis will be required for future capacity beyond 2018.

b. Explain the selected East Terminal Concept? Is it WGP without Terminal 2 changes? How does the Terminal 6 RJ facility and Terminal 4 fit into the refined concept?

c. Explain what role the East Terminal Complex plays in the total gate capacity, this includes NLA versus regional jets, location of aircraft, and OMP compared to WGP purpose and need.

A-62. Exhibit III-1; show Terminal 2 changes.

A-63. Exhibit III-7; Runway 9L appears to be shorter than in Option 5.

A-64. Exhibit III-34; update the legend to reflect the types of aircraft depicted in the layout.

A-65. Exhibit III-35; verify the West Satellite Terminal has only three piers on the ALP versus this exhibit, which shows four.

A-66. Page IV-1; add Aircraft Rescue and Fire Fighting (ARFF) facilities and custom facilities if appropriate.

A-67. Page IV-2, bullet 5; add auto parking for customers and pilots in the General Aviation (GA)/Fixed Base Operators (FBO) facility.

A-68. Table IV-1; format text font.

A-69. Table IV-1; explain in discussion text why square footage for the GA/FBO has almost doubled, but operations have basically remained the same through the planning horizon.

A-70. Page IV-4, paragraph 1, last sentence; "The assessments of the airline maintenance and GA/FBO facilities also demonstrate that no additional facilities are projected throughout the planning levels." According to Table IV-1, the square footage has almost doubled by 2018.

A-71. Page IV-4, section 4.1.2.1, paragraph 2; explain what numbers where used in the ratios to determine the future cargo facility requirements, especially since the current facilities exceed the current need.

A-72. Page IV-4, section 4.2.1.2, paragraph 2; add "ACA" after Atlantic Coast Airlines.

A-73. Page IV-5, section 4.1.2.3, paragraph 1; how can the Airline Ground Service Equipment (GSE) Maintenance facilities assessment be similar to airline maintenance facility assessments since GSE maintenance is based on aircraft operations and airline maintenance facility requirements are based on airline decisions.

A-74. Page IV-5, section 4.1.2.4, paragraph 1; explain what method was used in the evaluation of the truck loading dock areas and auto parking, especially in reference to the statement "was performed analogous to the methodology used for the previous assessments." What previous assessments?

A-75. Page IV-5, section 4.1.2.4, paragraph 2; why was DOA consulted to estimate the use of current flight kitchens on the airport? Would it not have been better to consult the airlines, especially since the flight kitchens demand is based on their needs?

A-76. Page IV-6, paragraph 1; update information since the FBO has relocated to the military apron.

A-77. Page IV-6, section 4.2, paragraph 2, sentence 2; rewrite to revise grammar.

A-78. Page IV-7, paragraph 2; recommend pursuing this recommendation and making a part of the proposed OMP.

A-79. Page IV-8, paragraph 2; have the two facilities, the Northwest Air Cargo and FedEx Cargo facility, been determined not to be a hazard to Air Navigation by the FAA?

A-80. Page IV-8, paragraph 2; has it been determined that employee parking in the South Cargo Area does not pose a hazard to security?

A-81. Page IV-8, section 4.3; exhibits IV-24 and IV-25 are missing from the document.

A-82. Page IV-9, paragraph 3; GA/FBO do not require more space within the planning horizon than currently occupied.

A-83. In general the GA/FBO information throughout section IV needs to be reviewed and updated to more accurately reflect the location and size of current and future facilities.

A-84. Exhibit IV-13; update to reflect information presented on page IV-6 paragraph 1.

A-85. Page V-1, section 5.1; "No other terminal curb-front changes are proposed under OMP." How is WGP incorporated in OMP? It is included in the proposed ALP and listed in the phases as part of OMP. Will there be curb-front changes with the addition of Terminal 4 and 6, as well as there are changes shown to Terminal 5 on the ALP.

A-86. Page V-1, section 5.1.1; change and verify the existing ratio of "10,150" to "10,147" and the "780-foot" curb-front to Terminal 1 to "779-foot" in accordance with footnote on page III-10.

A-87. Page V-2, paragraph 1; will two sets of three lanes give you the ability to separate departing traffic according to regional roads (in reference to last sentence of the paragraph)?

A-88. Page V-2, section 5.2, bullet 6; list the other WGP Roadway Concepts.

A-89. General comment; clarify what portions of WGP are part of OMP and which ones are not. Discuss why each portion was or was not included. Also discuss the WGP components affect on the overall capacity and efficiency of OMP.

A-90. Page V-2, section 5.2.1.1; verify with surface transportation sub-group that 900 inbound trips and 800 outbound trips are appropriate.

A-91. Page V-2 and V-3; discuss in this section how western access will be provided to the entire airport.

A-92. Page V-5 and 6, Concept 2 and 3, Airfield Impacts; if I-190 does not have security requirements currently when it is on airport property, why would the north/south roadway located on airport property have security requirements?

A-93. Page V-7, section 5.2.1.4, off Airport Impacts; has the 300 feet reserved for the Western Bypass been verified as adequate space and if so, by what agency?

A-94. Page V-8, section 5.2.2.2, bullet 2; fix grammar.

A-95. Table V-1; remove footnote on "Left Turn Lanes at Signalized Intersections".

A-96. Table V-1; add environmental impacts on streams, which is caused by Concept IP-3.

A-97. Page V-12, section 5.2.3.3 and 5.2.3.4; review road around Runway 9L, which is the preferred concept to make sure it does not affect western by-pass, does not penetrate approach surface, and that traffic will not backup in the RPZ.

A-98. Page V-12, section 5.2.4; verify Bessie Coleman flyover ramps do not affect Part 77 surfaces and Bessie Coleman is out of RSA.

A-99. Page V-13, Concept 1 through 4; identify impacts on the RPZ and if any entrance or exit ramps penetrate the 14 CFR part 77 surfaces as discussed in Concept 4.

A-100. Page V-13, last paragraph; provide information on why no I-190 realignment was considered under OMP.

A-101. Page V-14, section 5.2.6; identify what capacity improvements are to be made to I-190.

A-102. Page V-14, section 5.2.6; identify how Terminal 4 will be accessed.

A-103. Page V-14, paragraph 1; explain how the percentage split between east and west terminals was determined (84 and 16 percent), review this information based on 2002 gate schedules.

A-104. Table V-3; explain in text where the assumptions in the table were determined, especially the split between short and long-term parking and the area for the parking stalls.

A-105. Page V-17, second bullet, The Preferred Concept; see ALP Comment submitted to the City on May 21, 2003.

A-106. Page V-19, footnote 1; are Transportation Security Administration (TSA) employees considered in the employee parking requirements. If they are they need to be discussed in the text.

A-107. Page V-20; first paragraph; explain how it was determined to use 300 and 325 square feet for stall area, especially when table V-3 used 325 square feet for structure and 350 square feet for surface parking.

A-108. Table V-7; explain in text how the stall numbers were determined for the east and west terminals. Also, verify these assumptions are valid with the surface transportation working group.

A-109. Table V-8; the footnote 1 in table V-6 states that United Airlines and American Airlines have approximately 6,467 stalls in the northwest maintenance area. Verify why this table only shows a requirement of 3,121 employee-parking stalls in the northwest maintenance area.

A-110. Page V-21, section 5.4.2.1; removing parking from the northwest maintenance area should be a Department of Aviation Goal in the time frame of the OMP development.

A-111. Page V-21; verify if new ATS station and blue line connection is still proposed under OMP.

A-112. General comment on Section V; when making assumptions about passenger and employee parking, why is it assumed that after 2014, demand on the east side will be met? Will the east side terminals reach capacity after 2014? Discussions areas include, but are not limited to, page V-26 and Table V-11.

A-113. Table V-9, footnote 3; why do the northwest maintenance area employees parking stalls reflect in-kind replacement of existing parking stalls? Is there no forecasted growth for those tenants that currently use that area or will they be accommodated in other areas of the airport?

A-114. Page V-24 and 25; section 5.5.2.1, Preferred Concept; verify that the four story rental car facility is located outside the RPZ, extended OFA and that the facility is not a 14 CFR part 77 violation.

A-115. Page V-29, paragraph 3; there will need to be a security check point for screening of commercial vehicles on the West Terminal complex access road, as is available on the east side.

A-116. Page V-31; Preferred Secure APM Concept; provide discussion of the capacity of the secured automatic people mover (APM). What is the flow through of people between the East and West Terminal Complexes, how many cars will be available, and what is the wait time for passengers?

A-117. Page V-31, section 5.7.2; provide discussion and options for passengers who arrive at the West Terminal and do not have ability to check bags because airline

facilities are unavailable, thus the passenger is unable to get through security to gain access to the secured APM.

A-118. Page V-32; section 5.7.2.1; determine if the airport transit system (ATS) causes a 14 CFR part 77 violation. Please review and provide a more detailed discussion if necessary.

A-119. Page V-32, section 5.7.2.1, paragraph 2; add passengers who have checked baggage on airlines that only serve the east terminal complex to the list of people that would use the ATS.

A-120. Page V-34, bullet 1 and 3; in accordance with AC 150/5300-13, Airport Design, the bridge width must be the width of the runway or taxiway plus safety area. Thus the width of the bridge for Runway 4L/22R, must be a minimum of 500 feet wide.

A-121. Page V-35, section 5.7.2.3; show diagram of the route the shuttle will take when operating on local roadways.

A-122. Page V-35, section 5.7.2.3, paragraph 5; parking facilities, including long term parking lots, must be taken into consideration in this bus route. At a minimum discuss how passengers from the West Terminal, who parked in the East Terminal long-term parking lot, will access their vehicle.

A-123. Page V-25 and V-26, section 5.7.2.4; verify 8 buses will be adequate to provide service every 10 minutes at each stop, including long-term parking lots.

A-124. Page V-41, paragraph 1; verify that the Metra connection at the West Terminal Complex reference is the same as Metra's proposed STAR Line.

A-125. Page V-41, paragraph 2; the reference to CTA seems to be out of place. It should be incorporated into section 5.9.1.

A-126. General Comment, Appendix A; include this information in the Unconstrained Demand Analysis Report. (This has been discussed with the FAA's Third Party Contractor.)

A-127. General Comment, Appendix A; reevaluate the use of forecast date of 2022. In order to be consistent with all other planning information, we recommend the use of 2018, or PAL1 or PAL2.

A-128. Page A-5, paragraph 2; explain how it was determined the international carriers would increase their share of enplaned belly cargo and thus causing an increase in the overall average of enplaned cargo tonnage.

A-129. Page B-2, bullet 5; include apron, hangar, and customer parking in description of needs.

A-130. Page B-5, second paragraph; "Although approximately 12 percent of cargo is processed off-airport, thus not requiring warehouse, cargo..." this infers the calculations in the sentence prior includes a 12 percent reduction. If this is correct, the second to last sentence of this paragraph is incorrect or need to be verified. It indicates table B-3, which lists the exact amount, as the sentence above, does not take the 12 percent reduction into consideration when calculating peak month total enplaned cargo.

A-131. Page B-14, Table B-13; is there a need to include ARFF in future airport maintenance DOA future facility requirements?

A-132. Page B-14; verify the need to relocate the GA/FBO from it's present relocated site, due to the construction of Runway 10C/28C. In addition, review fractional ownership industry trends when determining facilities required such as customer parking and apron space available.

A-133. Transportation Security Administration comments on the Concept Development/Refinement Report.

a. Page IV-7, section on Exhibits IV-6 through IV-8, refers to moving the parking area outside of the secured area near the Mount Prospect Road entrance. This would be a positive step towards improved security. Employees could be screened prior to boarding employee buses, which bring them to their work sites within the secured area, which would then be redefined as a result of the OMP. A structure could house a screening facility in this parking area, thus preventing unscreened individuals from entering the airfield.

b. Page V-3 and V-5, Concept 2 describes a north/south roadway bisecting the airport that would provide access to the West Terminal. Opening a public access road anywhere on airport property will require consideration of an area where vehicles can stop and be searched under certain security conditions. Any concept that includes a public road, which brings vehicle traffic closer to aircraft, will not be supported by TSA security.

c. Until TSA Security requirements for airfield and terminal access become further defined, only security concepts can be discussed. However, planning for the construction of screening structures must be considered, regardless of whether the proposed plans address passengers, employees, or layers of preventive measures.

Project Definition Report

B-1. Page 4, section 3; discuss what the wind coverage will be with the east west configuration and with and without the 4/22 Runways.

B-2. Page 4, section 3; discuss the critical aircraft and the length required for those aircraft.

B-3. Page 4, section 3; under the proposed configuration not all runways are designed for Aircraft Design Group (ADG) V aircraft. There are numerous restrictions that must be discussed and should be mentioned in this section. (See Draft ALP comment A-48 issued May 21, 2003.)

B-4. Page 4, section 3.1.1; "The length of this will satisfy landing and departure runway length requirements for ADG IV and smaller for the majority of domestic markets." As described earlier, all runways are designed for ADG V, thus why will this runway not meet the requirements of a majority of the ADG V and smaller landing and departure runway lengths required. Also, what percentage is a majority?

B-5. Page 4, section 3.1.1, paragraph 2; discuss the taxi restriction of ADG V aircraft, as provided in ALP comments and FAA/City Airport Layout Plan (ALP) working sessions. (See Draft ALP comment A-48 issued May 21, 2003.)

B-6. Page 6, paragraph 3; explain why the dual ADG V taxiways around the north side of the east terminal area were not included as part of OMP, since it was a recommendation of the 1991 Delay Task Force. (See Draft ALP comment D-1 issued May 21, 2003.)

B-7. Page 6, paragraph 4 and 5; see Draft ALP comment B-96 issued May 21, 2003.

B-8. Page 7, paragraph 2; see Draft ALP comment A-48 issued May 21, 2003.

B-9. Page 7, section 3.1.2, paragraph 3; see Draft ALP comment A-48 issued May 21, 2003.

B-10. Page 7, section 3.1.2, paragraph 4; in the first sentence change "22R" to "22L".

B-11. Page 7, section 3.1.2 paragraph 4; see Draft ALP comment A-42 issued May 21, 2003.

B-12. Page 8; verify the length of Runway 10C/28C and provide justification and all information pertaining to declared distances. (See Draft ALP comment A-43 issued May 21, 2003.)

B-13. Page 8, paragraph 3 and 4; see Draft ALP comment D-3 issued May 21, 2003.

B-14. Page 8; see Draft ALP comment D-4 issued May 21, 2003.

B-15. Page 9; see Draft ALP comment D-5 and D-6 issued May 21, 2003.

B-16. Add information pertaining to Runway 4L/22R and 4R/22L to the runway descriptions.

B-17. Page 10, section 3.2.1, paragraph 2; describe how the other 10 of the 14 potential runway-operating plans will be used if only four are considered primary configurations, high wind, snow removal, runway maintenance etc.

B-18. Page 10, Table-1, footnote 1; verify footnote relevance after Collision Risk Model results are provided by FAA for Runway 9L/27R and Taxiway H.

B-19. Page 12, Exhibit 4 through 8; review taxi flow configurations and runway usage based on Draft ALP comments issued August 6, 2003.

B-20. Page 16, section 3.2.2, bullet 1; describe where and how the taxi flows are designed to reduce runway crossings.

B-21. Page 17, Exhibit 9, review NLA taxiway routes based on Draft ALP comments issued May 21 and August 6, 2003.

B-22. Page 26, section 4; see Draft ALP comments D-9 and D-10 issued May 21, 2003.

B-23. Page 26; verify the location of NLA and wide body aircraft gates, the need for FIS in Terminal 5 and the West Terminal Complex, and the location of regional jet and narrow body jet aircraft. Do the locations enhance passenger convenience and efficiency? Do the type of gates and their locations match the need of the tenants?

B-24. Page 27; see Draft ALP comments D-12 issued May 21, 2003.

B-25. Page 32, Table-3; update table based on Note to File, OMP 2018 Gate Requirements, Ura Yvan, Ricondo & Associates – June 18, 2003 and Memo from FAA's Third Party Contractor, OMP EIS – LFA Review of OMP Gate Requirements dated July 23, 2003 and verify consistency with *Concept Development/Refinement Report.*

B-26. Page 36, bullet 2; provide information on how vehicles are moved across Runway 10L/28R, if applicable.

B-27. Page 36, bullet 6; will the development meet TERPS standards?

B-28. Page 37, Table-5; provide current and proposed cargo facilities, so comparison of impact can be made.

B-29. Page 38, section 6, paragraph 1; explain to what extent facility replacement may change.

B-30. Page 38, bullet 3 and 5; verify consistency of symbol usage on exhibits. Guard posts are depicted using a green triangle.

B-31. Page 38, bullet 9; will the sanitary unit be relocated? Is this the proper location in the text to discuss the sanitary unit?

B-32. Page 40, bullet 8; in last sentence change "additional" to "addition".

B-33. Page 44, section 7.2.1; include discussion of proposed western by-pass that will be located on airport property, according to Concept Development/Refinement Report and numerous newspaper articles.

B-34. Page 48, section 7.3.2; see Draft ALP comment B97 issued May 21, 2003, pertaining to parking in the RPZ and extended OFA.

B-35. Page 50, section 7; provide description of un-secure access between the West and East Terminal Complexes and the long-term parking. This should include the method used for transportation including route, capacity and demand of the facility, and passengers and tenants that will use the facility.

B-36. Page 59, section 8.2; see Draft ALP comment A-41 issued May 21, 2003.

B-37. General Comment, section 9; provide additional detailed information on the phasing process, such as what remains in operation, what items must be altered, if certain portions of the airport must change use in order to accommodate construction, etc.

B-38. Page 73, Operational Impacts; must partially close Runway 14R/32L.

B-39. Page 73, Operational Assumptions; Category II/III capability is a recommendation of the Delay Task Force, not a requirement of OMP.

B-40. Page 73, section 9.1.4, WS-3; change may to must. If the APM is not built prior to the development of the West Satellite Concourse, how will people be transported between the West and East Terminal Complexes?

B-41. Page 74, Operational Assumptions; Category II/III capability is a recommendation of the Delay Task Force, not a requirement of OMP.

B-42. Page 74, Operational Assumptions, bullet 3; restoration of Runway 28R Category II/III capability should be found in Phase 1B.

B-43. Page 74, Operational Assumption, bullet 4; provide a better description of runway length requirements. There will not be 13,000 feet available at all times on runway 10L/28R due to the protection of Taxiway Q and Runway 4R/22L.

B-44. Page 74, Operational Assumptions, bullet 4; change reference to "22R" to "28R".

B-45. Page 74, 76 and 77, General Comment; provide justification for 13,000 feet of runway length.

B-46. Page 76, section 9.2.3, 2B-4; is the ultimate relocation of all employees' parking from within the northwest maintenance area to an area outside of the Airport Operations Area still a consideration? This would be a preferred alternative.

B-47. Page 82; see Draft ALP comments pertaining to runway/taxiway separation requirements and runway safety area requirements. If any portion of the airport does not meet FAA design standards the Airport must request a Modification to Standards and provide justification. If a runway safety area does not meet standards a practicability study must be completed.

Unconstrained Demand Analysis Report

Comments were sent to the FAA's Third Part Contractor on August 1, 2003, that will be incorporated in revised report that will be based on the 2002 Terminal Area Forecast.

Airside Simulation Analysis

Except for a few comments below, the majority of the comments on this document can be found in the Draft ALP comments submitted on August 6, 2003.

C-1. Throughout the document, incorporate information based on the use of the 2002 Terminal Area Forecast (TAF).

C-2. Page II-3, section 2.1.4; discuss the assumptions used to determine the seats per departure.

C-3. Page II-8, third paragraph; review general aviation operations based on 2002 TAF. (See Draft ALP comment B-8 issued August 6, 2003.)

C-4. Page II-14, paragraph 2; add text describing how gate availability was used in the TAAM simulation model.

C-5. Section 2.3; provide information on how precipitation will affect land and hold short operations (LAHSO) and thus affect throughput of the airport.

C-6. Page IV-1, first paragraph; moving the runway 400 feet north may have allowed free flow of aircraft to gates that were determined restricted based on the FAA's collision risk model (CRM), thus may have materially changed the airfield/airspace. Please revaluate this assumption.

C-7. Page IV-1, IV-4, and IV-8; how many gates were used in the TAAM model to provide sufficient capacity for the runways? Is this number considered in the proposed plan? How does this number correspond with the information provided in the *Project Definition Report* and the *Concept Development/Refinement Report*?

C-8. Page IV-3, section 4.1.2.1; according to the *Project Definition Report* and the *Concept Development/Refinement Report*, 12,000 feet for Runway 28R would not meet the needs of the users.

C-9. Page IV-4, paragraph 1; the 400-foot runway/taxiway separation on the east end of Runway 28 is not shown on the current approved ALP, however the dual taxiways are. There is a service road shown that creates the 400 feet separation that was not included in the World Gateway Program.

C-10. Page IV-6, section 4.2.2.1; according to the *Project Definition Report* and the *Concept Development/Refinement Report*, 12,000 feet for Runway 28R would not meet the needs of the users.

C-11. Page IV-8, section 4.3.1.2, paragraph 1, change "1,200 feet" to "1,607 feet".

C-12. Page IV-8, section 4.3.1.2, paragraph 2; the 400-foot runway/taxiway separation on the east end of Runway 28 is not shown on the current approved ALP, however the dual taxiways are. There is a service road shown that creates the 400 feet separation that was not included in the World Gateway Program.

C-13. Page IV-9, section 4.3.2.1; the 400-foot runway/taxiway separation on the east end of Runway 28R, is not shown on the current approved ALP however the dual taxiways are. There is a service road shown that creates the 400 feet separation that was not included in the World Gateway Program.

C-14. Page IV-9, section 4.3.2.2, paragraph 2; verify the length of Runway 10C/28C and coordinate with the *Project Definition Report* and the *Concept Development/Refinement Report*.

C-15. Section V; provide information or documentation on if and how NLA was taken into consideration when developing the arrival and departure traffic flows, based on only certain runways and taxiways are being designed to handle this size of aircraft.

C-16. Page VI-1, section 6.1, paragraph 4, last sentence; provide information on how it was determined that the effects of the additional airspace changes are estimated to be of significantly less impact than the addition of the new runways.

C-17. Page VI-2; provide addition information on the relationship between OMP and the National Airspace Review (NAR). (See Draft ALP comment B-90 issued August 6, 2003.)

C-18. Exhibit VI-1; verify the Option 5 graphic is correct. The graph appears to be incorrect based on the numbers found in table VI-2, which shows 10.2 minutes of delay shown in the table versus approximately 7 minutes of delay shown in the graph.

C-19. Section VI; explain in this section how gate delay was determined for Option 1 and Option 5, especially since it was discussed on pages IV-1, 4, and 8 that a full gate capacity was provided for the simulations in order to allow for a full analysis of the airfield capacity without gate constraints. What number of gates was used to determine gate capacity and provide information on the number of gates required for OMP to gain the benefits of the proposed runway configuration?

C-20. Section VI; update information on gate capacity based on Note to File, OMP 2018 Gate Requirements, Ura Yvan, Ricondo & Associates – June 18, 2003 and Memo from FAA's Third Party Contractor, OMP EIS – LFA Review of OMP Gate Requirements dated July 23, 2003 and verify consistency with *Project Definition Report* and the *Concept Development/Refinement Report.*

Airport Layout Plan Submittal

Revise this document to reflect changes in airport layout, costs, facility requirements and forecast activity, both passenger and operations.

General Comments

In addition to revising the information in the *Project Definition Report, Concept Development Refinement Report, Unconstrained Demand Analysis Report, Airside Simulation Report,* and the *Airport Layout Plan Submittal Report* as recommended above, provide the following information in the final OMP Master Plan Report.

D-1. Provide an OMP financial plan, which includes a discussion of what role/priority OMP plays in the Chicago O'Hare Capital Improvement Plan, funding sources (AIP, PFC, entitlements, discretionary, bonds, others), and amounts.

D-2. Develop a cost benefit analysis for OMP.

D-3. Provide documentation on the economic impact of OMP on the City of Chicago and the region.

D-4. Discuss further how the goals and objectives of the OMP and the WGP work together to provide an overall more efficient and beneficial airport.

D-5. Provide documentation describing the existing conditions and issues. This includes an airport inventory and an assessment of pertinent airport-related issues and operational constraints.

D-6. Provide a discussion of the City's public outreach program.

D-7. Provide a discussion of compatible land-use such as zoning, RPZ acquisition, and public interest. (See Draft ALP comment A-41 issued May 21, 2003.)

D-8. Provide discussion of airport capacity and delay based on 2002 Terminal Area Forecasts. This discussion should include information on constrained and unconstrained airfield capacity, delay numbers that compare a build and no build scenario, and other capacity and delay issues, such as runway versus airfield delay numbers, as appropriate.